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ABSTRACT

This basic skills resource tool for the teacher illustrates, through models and practices that are proven successful at state and local levels, how to implement the processes and techniques presented in BASICS. BASICS is a package of integrated materials developed to assist teachers, administrators, and counselors in bridging vocational and academic skills. These exemplary practices are divided into two topics: Basic Skills Techniques and Joint Effort Practices. The first section contains 47 techniques, practices, and programs used by secondary vocational teachers to teach basic skills in their classrooms. The other gives 24 examples of teaching basic skills through joint efforts between academic and vocational teachers. The practices are further grouped by the basic skill emphasized (mathematics, communication, problem-solving, science). Each technique provides the following information: technique/practice, vocational area(s), special populations served, target audience, brief description of the practice by the teacher, and contact for additional information. The primer concludes with an index of the basic skill techniques and joint effort initiatives. Strategies are indexed by the basic skill emphasized, by vocational service area, and by special population. (YLB)

Basics
Bridging Vocational and Academic Skills

ED288956

Primer of Exemplary Strategies

CE047970

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PRIMER OF EXEMPLARY STRATEGIES

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FOREWORD

Converging factors point to a need to look for new pathways to vocational education excellence: the public's increased expectations regarding academic outcomes of education, heightened by a number of national reports; increased graduation requirements and declining vocational enrollments in many states; the emphasis in the Perkins Act on the need for strengthening academic foundations; and business and industry requests that entry-level employees have a more thorough knowledge of the basic academics they will need to apply in their vocational fields. Those concerned agree that students need to have stronger basic academic skills as they leave secondary education programs—stronger academic skills for graduation, for work, and for life.

The National Center has sponsored diverse efforts dealing with basic skills in vocational education, from research to development to dissemination. Much has been learned about vocational students' basic skills learning problems. In order to make connections between research and practice, The National Center has, through synthesis and development, prepared an integrated package for teacher use, reinforcing this information with practical applications gleaned from teachers' repertoires across the nation. The products in the package are aimed toward enabling vocational and academic teachers to strengthen the academic component of vocational programs through joint effort.

The **BASICS** package provides resources in five focus areas: research findings, teaching techniques, instructional materials, instructional strategies, and support roles. The resources are organized in three looseleaf guidebooks for flexible use. An accompanying videotape provides an orientation to the topic and to the package.

The Bridger's Guide orients administrators, counselors, teachers, and employers to the purpose and application of **BASICS:** individual roles are explained, resources identified, and implementation guidelines and strategies outlined in workshop format. Individual components to the guide are as follows:

- *Implementation Guide* describes the philosophy of **BASICS** and provides guidelines for implementing the program.
- *Support Roles for Basic Skills* describes the role of administrators, counselors, employers, and families in a program for improving basic skills.
- *Primer of Exemplary Strategies* provides teachers with examples of other teachers' successful efforts and diverse approaches.
- *Roadsigns from Research* (posters and brochures) highlights key research findings of interest to those involved in strengthening basic skills.

Targeted Teaching Techniques provides vocational and academic teachers with assessment, planning, and management tools to improve students' basic skills. Individual components are as follows:

- *Technique for Management: Time for Learning* lays foundations for more effective basic skills instruction through studying the use of classroom time.
- *Technique for Remediation: Peer Tutoring* discusses the planning, implementation, and evaluation of peer tutoring programs to strengthen students' basic skills.
- *Technique for Computer Use: Software Evaluation* describes a procedure for joint evaluation of educational software for basic skills instruction.
- *Technique for Individualization: The Academic Development Plan* guides school staff through a systematic identification of individual student needs and steps to meet those needs.
- *Techniques for Joint Effort: The Vocational-Academic Approach* describes teaching techniques that vocational and academic teachers can use jointly to improve students' basic skills.

Developing an Instructional Program provides teachers with practical and theoretical information on the development or selection of appropriate applied basic skills instructional materials. Individual components are as follows:

- *Instructional Materials Development* discusses the prerequisites of materials development, alternative curriculum types, and guidelines for materials development and review.
- *Supplemental Instructional Resources* identifies sources of basic skills instructional materials for use with vocational students.
- *Instructional Assistance in Specific Basic Skills* prepares vocational teachers to help students gain reading, writing, oral communications, and math skills.

The National Center wishes to acknowledge the leadership provided to this effort by Dr. Robert E. Taylor, recently retired Executive Director. Appreciation is extended to the following individuals who served as a panel of experts to assist staff in planning strategy and recommending document content: Eugene Bottoms, Consultant to the Southern Association of Colleges and Schools; Michele Brown, Vocational Supervisor, Idaho Falls School District, ID; Alton Crews, Superintendent, Gwinnett County Public Schools, GA; Roger Faulkner, Instructor-Coordinator, Great Oaks Joint Vocational School District, OH; and Darrell Parks, Director, Division of Vocational and Career Education, Ohio Department of Education. Jay Smink, Senior Research Specialist, contributed to development of this publication through an internal review of the manuscript.

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Chester K. Hansen
Acting Executive Director
The National Center for Research
in Vocational Education

EXECUTIVE SUMMARY

The *Primer of Exemplary Strategies* responds to the need for integration of basic skills into vocational education by providing summaries of techniques, models and practices that have proven successful at local and state levels. It shows the diverse efforts being made by vocational educators to promote basic skills learning.

The types of strategies range from techniques used by classroom teachers to joint efforts made by academic and vocational teachers to develop strategies and materials which reinforce, remediate and enhance basic skills learning. The primer is divided into two topics: Basic Skills Techniques and Joint Effort Practices.

The Basic Skills Techniques section contains 47 summaries of techniques, practices, and programs. They are grouped by the type of basic skill or combinations of skills. All of the skills related to language arts—reading, writing, listening, and speaking—are listed under the heading Communications. The groups and the number of strategies included under each are math skills (7), math and problem-solving skills (3), communications skills (10), communications and problem-solving skills (3), math/communications (5), math/communications and problem-solving skills (9), science skills (1), and other combinations of basic skills (11).

The Joint Effort Practices number 24. They are grouped as follows: Math skills (2), math/communication skills (8), math/communication and problem-solving skills (5), math and science skills (4), and other combinations of skills (5).

INTRODUCTION

The *Primer of Exemplary Strategies* is a basic skills resource tool for the teacher. It illustrates, through models and practices that are proven successful at state and local levels, how to implement the processes and techniques presented in **BASICS.** The *Primer*, like the other package products, is aimed at strengthening students' academic skills by connecting these skills to vocational service areas and by enabling academic subject matter teachers and vocational education teachers to work together.

While most of the techniques have been submitted by vocational teachers, all secondary teachers will find many useful items in this primer. Some are innovative techniques or practices or programs. Others are examples of what many teachers may be doing around the country. But whether they are innovative or "nitty-gritty", all the activities can be used by teachers and schools to promote basic skill learning in vocational education. The *Primer* will also be useful to supervisors and principals who want to emphasize improving basic skills instruction.

To obtain these exemplary practices, National Center staff asked state directors of vocational education for recommendations of such practices in their states. Teachers, supervisors, and directors using these practices were asked to submit information about them.

The practices were divided into two major groups. One contains techniques used by secondary vocational teachers to teach basic skills in their classrooms. The other gives examples of teaching basic skills through joint efforts between academic and vocational teachers.

The practices were further grouped by the basic skill emphasized. Vocational area(s) and special populations served are also noted. These are indicated in the left column on each page. The target audience is noted and the practice is described briefly by the teacher.

A contact is listed for each practice so teachers and administrators can write for additional information. Names have been omitted in order to relieve individual teachers of a potential burden of responding to requests when they may not have time or facilities to do so. We have thanked these persons in the foreword for their contributions.

The *Primer* concludes with an index of the basic skill techniques and joint effort initiatives. Strategies are indexed by the basic skill emphasized, by vocational service area and by special population, as reported by individuals submitting the strategies. The numbers listed in the index are strategy numbers at the top of each page rather than page numbers.

This primer is designed to complement other sources in the **BASICS** package. In particular, it relates to *Supplemental Instructional Resources*, a listing of sources of basic skills instructional materials available for use with vocational students. From the *Primer* and the other two sources, teachers can supplement their repertoire of techniques for strengthening basic skills in vocational education.

Basic Skills Techniques

Basic Skills Technique - 1

TECHNIQUE/PRACTICE: Basic Math

Team teaching and individualized instruction to strengthen math skills

BASIC SKILLS EMPHASIZED

- [X] Mathematics
- [ ] Communication
- [ ] Science
- [ ] Problem Solving
- [ ] Other: _____

VOCATIONAL SERVICE AREA

- [ ] Agriculture
- [X] Business & Office
- [ ] Health Occupations
- [ ] Home Economics
- [ ] Marketing/Distributive Educ.
- [ ] Technical Education
- [ ] Trade & Industrial
- [ ] Other: _____

SPECIAL POPULATIONS

- [ ] Speech Impaired
- [ ] Deaf/Hearing Impaired
- [ ] Visually Impaired
- [ ] Orthopedically Impaired
- [ ] Learning Disabled
- [ ] Mentally Retarded
- [ ] Emotionally Disturbed
- [ ] Potential Dropouts
- [ ] Other: _____

TARGET AUDIENCE: All students in secretarial/word processing, grade 12

DESCRIPTION: This strategy is designed to teach and reinforce basic math skills in the total school program. About 30 hours a year are spent in team instruction. One period a week the vocational and academic math teachers team teach a class. The next day the vocational teacher follows up with review and a quick test. Students who have not shown a grasp of the material must get individualized instruction from the math teacher. Students receive instruction on a one-on-one basis or in groups of five or ten.

For special needs students, special instruction and help are given by the math teacher.

CONTACT: Chairperson, Business Department
Vern Riffe Joint Vocational School
23365 State Route 124, P.O. Box 577
Piketon, OH 45661

Basic Skills Technique - 2

TECHNIQUE/PRACTICE: Computer-Assisted Math Instruction

A program for reinforcing math skills through computer-assisted instruction

BASIC SKILLS EMPHASIZED

- [X] Mathematics
- [ ] Communication
- [ ] Science
- [ ] Problem Solving
- [ ] Other: _____

VOCATIONAL SERVICE AREA

- [ ] Agriculture
- [ ] Business & Office
- [ ] Health Occupations
- [ ] Home Economics
- [ ] Marketing/Distributive Educ.
- [ ] Technical Education
- [X] Trade & Industrial
- [ ] Other: _____

SPECIAL POPULATIONS

- [ ] Speech Impaired
- [ ] Deaf/Hearing Impaired
- [ ] Visually Impaired
- [ ] Orthopedically Impaired
- [ ] Learning Disabled
- [ ] Mentally Retarded
- [ ] Emotionally Disturbed
- [ ] Potential Dropouts
- [ ] Other: _____

TARGET AUDIENCE: Vocational students in sheet metal and cosmetology, grades 11 and 12

DESCRIPTION: This program reinforces basic math skills through group and individualized instruction. The computer-assisted instruction uses a math software program that includes a pretest, instruction at several levels of difficulty, and posttest. The individualized and group instruction allows teachers and students to adapt to different learning and teaching styles.

Students have shown real growth in basic math skills. The use of computer-assisted instruction allows instruction at the student's level.

CONTACT: Supervisor, Trade & Industrial Education
Akron Public Schools
70 N. Broadway
Akron, OH 44308

Basic Skills Technique - 3

TECHNIQUE/PRACTICE: Math for Electronics

A course in applied math taught by a math-certified electronics teacher

BASIC SKILLS EMPHASIZED

- X Mathematics
- ___ Communication
- ___ Science
- ___ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- ___ Business & Office
- ___ Health Occupations
- ___ Home Economics
- ___ Marketing/Distributive Educ.
- ___ Technical Education
- X Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Cooperative vocational students, grades 11 and 12

DESCRIPTION: In the electronics areas, an electronics teacher, also certified as a math teacher, has responsibility for all math instruction. All math used in electronics is pulled out and taught by that teacher as applied math. Students take the class according to need, not ability, and may earn Carnegie units for graduation. After passing the course, juniors have the option of taking algebra I and II; seniors are required to take them. These math courses are required because the school teachers and administrators believe two years of electronics are not enough preparation and most electronics students take additional training in college where further math is required. The math course also helps meet new state curriculum requirements.

CONTACT: Supervisor
Montgomery County Joint Vocational School
6800 Hoke Road
Clayton, OH 45315

TECHNIQUE/PRACTICE: Math League

A competitive program to enhance math skills learning in vocational education

BASIC SKILLS EMPHASIZED

- _X_ Mathematics
- ___ Communication
- ___ Science
- ___ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- _X_ Agriculture
- _X_ Business & Office
- _X_ Health Occupations
- _X_ Home Economics
- ___ Marketing/Distributive Educ.
- ___ Technical Education
- _X_ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Vocational students in grades 11-12

DESCRIPTION: The math league is a competitive program that motivates students to learn. Students learn math as they practice for team competition. The school math specialist gives a basic math skills test at the beginning of the year to juniors and to seniors in 1-year programs. The test includes 28 skills, from whole numbers to percentages. The math teacher divides students into two categories per level, so that there are two junior and two senior divisions. During the year there is a 22-week competition with 2 rounds of 11 games each.

The math specialist chooses a subject, such as fractions, and may work on, for example, addition of fractions for one week. She prepares worksheets for vocational teachers and students. The vocational teachers review the subject with students in class for a week. Then students complete a math game sheet with 4 problems that cover the subject. The math specialist grades the sheets and ranks the team scores. A listing of 1st, 2nd and 3rd places by teams is published at the end of the week.

At the end of competition in March, teams are selected for playoffs by number of first-place wins and highest score. Juniors and seniors each have 4-6 teams in the playoff. The playoff test has 25 problems. The math specialist grades all tests and announces the winning team in each league. Winners receive a pizza party. Plaques are also given to cumulative winners for the whole year. During the competition, traveling trophies are awarded weekly to first place teams.

The math specialist has three sets of scores for each student entering the competition as a junior: the junior pre- and posttest scores and senior posttest score.

The first year, student participation in the math league was voluntary. Participants' marked improvement in math skill performance prompted the administration and faculty to decide that all students should participate in the math league.

CONTACT: Supervisor
Eastland Career Center
4465 S. Hamilton Road
Groveport, OH 43125

Basic Skills Technique - 5

TECHNIQUE/PRACTICE: Pre-Tech Math

A program to help high school senior vocational students increase their skills in math

BASIC SKILLS EMPHASIZED

- X Mathematics
- ___ Communication
- ___ Science
- ___ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- ___ Business & Office
- ___ Health Occupations
- ___ Home Economics
- ___ Marketing/Distributive Educ.
- X Technical Education
- ___ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Vocational-technical students in who want to and can excel in math, grade 12

DESCRIPTION: This statewide program offers technical college level pre-tech math to high school vocational-technical students in grade 12. It is a collaborative program between the state vocational schools and the state technical colleges that gives students the opportunity to increase their math skills. It is open to students who have demonstrated ability and desire to excel in math. The purpose is to help students develop the mathematics competence needed in a highly technological society. It can enhance the potential for success of students who want to continue their education in the technical field.

Vocational-technical teachers deliver the program, with support from the tech-college instructors who visit classes and the vocational-technical schools and college consultants who coordinate the program.

CONTACT: Pre-Tech Math
Vocational-Technical School System
275 Windsor Street, Room 420
Hartford, CT 06120

Basic Skills Technique - 6

TECHNIQUE/PRACTICE: Reinforcing Math Skills

A classroom teaching strategy for reinforcing math skills

BASIC SKILLS EMPHASIZED

- X Mathematics
- ___ Communication
- ___ Science
- ___ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- X Business & Office
- ___ Health Occupations
- ___ Home Economics
- ___ Marketing/Distributive Educ.
- ___ Technical Education
- ___ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Cooperative vocational students in Data Processing, grade 11

DESCRIPTION: This teaching strategy reinforces and applies math skills, such as percentages, decimals, fractions and whole numbers. The teacher goes over the skill, most of which was learned in earlier grades and forgotten. The teacher does examples on the board, and refers students to the section in the text/workbook for more help. Practice problems are assigned. The teacher checks the work, gives and goes over a practice test, and gives the "real" test. Sometimes the teacher gives another test and takes the better of two scores. Not every one is required to take the retake test. Students like the practice test because it gives them confidence to do the real test.

The teacher uses a text that has two tests for each section, making it easy to use for practice and tests. The teacher uses an earlier edition of the text for students who need extra work. Students are permitted to use calculators.

CONTACT: Data Processing Teacher
Fort Hayes Career Center
546 Jack Gibbs Boulevard
Columbus, OH 43229

Basic Skills Technique - 7

TECHNIQUE/PRACTICE: Vocational Applied Mathematics (VAM)

A project that uses applied math workbooks to reinforce basic skills in math while enhancing the vocational curriculum

BASIC SKILLS EMPHASIZED

- _X_ Mathematics
- ___ Communication
- ___ Science
- ___ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- _X_ Agriculture
- _X_ Business & Office
- _X_ Health Occupations
- _X_ Home Economics
- _X_ Marketing/Distributive Educ.
- ___ Technical Education
- _X_ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- _X_ Learning Disabled
- _X_ Mentally Retarded
- ___ Emotionally Disturbed
- _X_ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Vocational students, grades 9-12

DESCRIPTION: A state model, this project uses teacher-developed vocational applied math workbooks in 20 areas to supplement regular vocational lab instruction. This strengthens the application of math as it relates directly to the vocational course taught. An outgrowth of a state standardized math curriculum, K-12, the workbooks contain vocationally appropriate math activities that include theory as well as practical application. They emphasize skills needed to pass the state basic skills test. Pre- and posttest results show significant improvement in basic math skills. Construction students were reported to perform 50 percent more effectively in the use of rules and measurements since using the workbooks.

Workbooks were developed for these courses: ag mechanics, crop production, forestry, horticulture, livestock production, business education, cosmetology, drafting, graphic arts, child development and clothing, nutrition/home/family, industrial arts, construction, transportation/ auto mechanics, health occupations, metals, electronics, electro-mechanics, food service, and health occupations.

CONTACT: Director of Vocational Instruction
Georgia Department of Education
1752 Twin Towers (East)
Atlanta, GA 30334

Project Director, STAMM/VAM
Oconee County Schools
Project STAMM/VAM
P.O. Box 146
Watkinsville, GA 30677

Basic Skills Technique - 8

TECHNIQUE/PRACTICE: Applied Technical Mathematics

A joint effort to teach math and problem-solving through application in vocational areas

BASIC SKILLS EMPHASIZED

- X Mathematics
- ___ Communication
- ___ Science
- X Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- ___ Business & Office
- X Health Occupations
- ___ Home Economics
- ___ Marketing/Distributive Educ.
- X Technical Education
- X Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- X Other: Disadvantaged

TARGET AUDIENCE: Disadvantaged vocational students in grades 10-12

DESCRIPTION: This program is designed to help students understand the relationship between math skills and vocational skills. The class is taught in the vocational classroom by the math teacher. The vocational teacher shares curriculum and lesson plans with the math teacher, who then devotes limited time to remediation/review of the specific skill to be taught. If necessary, additional remediation/review is scheduled individually. The lesson then moves to application in shop (gear calculations, framing square, etc.). Students work on a project that makes use of the specific skill (cutting gear, determining rafter and brace length, etc.).

Having the class in the vocational classroom gives students and teachers access to tools, machinery and equipment for hands-on application and practice.

CONTACT: Mercer County Vocational-Technical Center
105 Old Bluefield Road
Princeton, WV 24740

Basic Skills Technique - 9

TECHNIQUE/PRACTICE: Basic Skills Math

Improving math skills in occupational programs

BASIC SKILLS EMPHASIZED

- _X_ Mathematics
- ___ Communication
- ___ Science
- _X_ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- _X_ Business & Office
- _X_ Health Occupations
- _X_ Home Economics
- ___ Marketing/Distributive Educ.
- _X_ Technical Education
- _X_ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- _X_ Orthopedically Impaired
- _X_ Learning Disabled
- _X_ Mentally Retarded
- _X_ Emotionally Disturbed
- _X_ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Students in occupational programs, grades 11 and 12

DESCRIPTION: This course is designed to improve math skills in a variety of occupational areas. All students are tested. Low-scoring students are tutored twice a week for one quarter with a small group of students from that occupational area. Each student has a list of skills to be mastered and can proceed at own pace.

Computers are used for remediation in computational skill. All problems are related to the student's occupational field. Students who successfully master the skills on their lists are excused from further classes.

Cooperation of vocational instructors, who provide useful material for remediation, is essential to the success of the program.

CONTACT: Math Teacher
BOCES 2 Islip Occupational Center
375 Locust Avenue
Oakdale, NY 11769

Basic Skills Technique - 10

TECHNIQUE/PRACTICE: Reinforcing Math Basic Skills

A technique for drilling low-level students in computational and basic skills math, with immediate results and feedback

BASIC SKILLS EMPHASIZED

- X Mathematics
- ___ Communication
- ___ Science
- X Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- ___ Business & Office
- ___ Health Occupations
- ___ Home Economics
- ___ Marketing/Distributive Educ.
- ___ Technical Education
- X Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- X Other: Failures and projected failures of the state basic skills math test

TARGET AUDIENCE: Vocational students in grades 9-12 who have failed or are likely to fail the state basic skills math test

DESCRIPTION: This project is aimed at directing students toward successful results on the state basic skills math test by providing work on the specific areas covered on the test. The teacher presents the lesson, students are given in-class worksheets on the material, and worksheets are corrected and discussed. Students are then given homework assignments on the same material. Lessons are set up in one-week blocks with a review day on Thursday and a test on the week's material on Friday. Materials used are teacher generated.

CONTACT: Math Teacher
Pathfinder Regional Vocational-Technical High School
Route 181
Palmer, MA 01069

Basic Skills Technique - 11

TECHNIQUE/PRACTICE: Basic Skills Courses

Communication courses to improve basic skills needed for effective communication

BASIC SKILLS EMPHASIZED

___ Mathematics
_X_ Communication
___ Science
___ Problem Solving
___ Other: _____

VOCATIONAL SERVICE AREA

___ Agriculture
___ Business & Office
_X_ Health Occupations
_X_ Home Economics
_X_ Marketing/Distributive Educ.
_X_ Technical Education
_X_ Trade & Industrial
___ Other: _____

SPECIAL POPULATIONS

_X_ Speech Impaired
___ Deaf/Hearing Impaired
___ Visually Impaired
___ Orthopedically Impaired
_X_ Learning Disabled
___ Mentally Retarded
___ Emotionally Disturbed
_X_ Potential Dropouts
___ Other: _____

TARGET AUDIENCE: Vocational students who need help with basic skills, grades 9-12

DESCRIPTION: Communication Skill (Basic) courses I, II, III and IV are designed for students who have failed a basic writing test as freshmen and who need particular emphasis on the basic skills required for effective communication in everyday life. The communications courses include fundamental concepts of sentence, paragraph, and composition development, with special attention to spelling, word choice, usage, punctuation, and capitalization. Frequent short writing assignments are required. They are corrected and accumulated to help the teacher identify and correct problem areas.

Competency-based materials are developed locally after students are tested with ETS writing samples and holistic scoring. Administrators, counselors, employers and families must understand the policy, participate in setting standards, and correct writing samples.

Up to 70 percent of students in grade 9 have not met minimum standards when tested. However, by grade 12, about 97 percent have met these standards.

CONTACT: Superintendent-Director
Assabet Valley Regional Vocational School District
Fitchburg Street
Marlboro, MA 01752

Basic Skills Technique - 12

TECHNIQUE/PRACTICE: Building Communication Skills

Teaching strategies to develop reading and English skills to enable success in a regular class

BASIC SKILLS EMPHASIZED

- ___ Mathematics
- _X_ Communication
- ___ Science
- ___ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- _X_ Agriculture
- _X_ Business & Office
- _X_ Health Occupations
- _X_ Home Economics
- _X_ Marketing/Distributive Educ.
- _X_ Technical Education
- _X_ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- _X_ Deaf/Hearing Impaired
- _X_ Visually Impaired
- ___ Orthopedically Impaired
- _X_ Learning Disabled
- ___ Mentally Retarded
- _X_ Emotionally Disturbed
- ___ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Special needs vocational students in Resource Course (RC) Reading and English classes, grades 9-11

DESCRIPTION: These strategies help build reading and English skills that enable the special needs student to be successful in a regular basic class—a less restrictive environment. Interacting in class is considered the best confidence builder for the special needs student.

English is taught two periods a day. One period is devoted to writing skills. English grammar and literature are taught through the writing course. To develop writing abilities, the student lists ideas and facts on the subject, then categorizes the topics, writes paragraphs, and rewrites, going over the errors with the instructor. The teacher does a group composition for each assignment first as an example. The student's final copy is graded.

Students learn to organize their thoughts and follow a specific theme. They communicate information in writing more clearly.

Because of the success of the program, the state bestowed the Lucretia Crocker Award on the teacher who developed the program. The teacher is currently traveling the state on sabbatical to teach the program to other schools.

CONTACT: Director of Guidance
Pathfinder Regional Vocational-Technical High School
Route 181
Palmer, MA 01069

Basic Skills Technique - 13

TECHNIQUE/PRACTICE: Drama-Tech

Related instruction between basic skills and vocational study using the world of drama

BASIC SKILLS EMPHASIZED

___ Mathematics
_X_ Communication
___ Science
___ Problem Solving
___ Other: _____

VOCATIONAL SERVICE AREA

___ Agriculture
___ Business & Office
___ Health Occupations
___ Home Economics
___ Marketing/Distributive Educ.
_X_ Technical Education
_X_ Trade & Industrial
___ Other: _____

SPECIAL POPULATIONS

___ Speech Impaired
___ Deaf/Hearing Impaired
___ Visually Impaired
___ Orthopedically Impaired
___ Learning Disabled
___ Mentally Retarded
___ Emotionally Disturbed
___ Potential Dropouts
___ Other: _____

TARGET AUDIENCE: Vocational-technical students in grades 10-12

DESCRIPTION: Drama-Tech is a state-wide program in vocational-technical schools that involves trade instructors and language art teachers. It consists of a basic core offering of in-school demonstrations (the physical skills of the actor, arts and crafts of the theater and the world of the play), teacher workshops, field trips to local theaters and professional studios, and follow-up activities in the schools in support of teachers and students in the classroom.

Drama-Tech provides related instruction between the student's academic program and vocational course of study. The basic skills, listening, speaking, reading, writing, and viewing, are stressed in both the classroom and shop areas. A Drama-Tech manual has been developed.

A contract is written each year between the schools and the Center for Theatre Techniques, which provides contracted services for program operation in the schools.

CONTACT: Drama-Tech
State Department of Education Consultant
Vocational-Technical School System
275 Windsor Street
Hartford, CT 06120

Basic Skills Technique - 14

TECHNIQUE/PRACTICE: Individualized Language Arts

A project that uses applied math workbooks to reinforce basic skills in writing while enhancing the vocational curriculum

BASIC SKILLS EMPHASIZED

___ Mathematics
_X_ Communication
___ Science
___ Problem Solving
___ Other: _____

VOCATIONAL SERVICE AREA

_X_ Agriculture
_X_ Business & Office
_X_ Health Occupations
_X_ Home Economics
___ Marketing/Distributive Educ.
___ Technical Education
_X_ Trade & Industrial
___ Other: _____

SPECIAL POPULATIONS

___ Speech Impaired
___ Deaf/Hearing Impaired
___ Visually Impaired
___ Orthopedically Impaired
_X_ Learning Disabled
_X_ Mentally Retarded
___ Emotionally Disturbed
_X_ Potential Dropouts
___ Other: _____

TARGET AUDIENCE: Vocational students, grades 9-12

DESCRIPTION: A state model, this program uses a teacher-developed writing techniques manual in transportation/auto mechanics to supplement regular vocational instruction. The manual lets students learn and practice basic language arts skills and, at the same time, enhances the vocational curriculum. An example of the specialized writing techniques for auto mechanics would be learning to write a letter to a company after receiving a shipment of damaged parts. The manual outlines directions for a three-paragraph letter to a company.

The state is developing manuals for health occupations, metals, and construction and plans to produce a series of writing manuals for all vocational subject areas.

CONTACT: Director of Vocational Instruction
Georgia Department of Education
1752 Twin Towers (East)
Atlanta, GA 30334

Basic Skills Technique - 15

TECHNIQUE/PRACTICE: Proofreading Practice

An activity that gives students experience in editing written material

BASIC SKILLS EMPHASIZED

___ Mathematics
_X_ Communication
___ Science
___ Problem Solving
___ Other: _____

VOCATIONAL SERVICE AREA

___ Agriculture
_X_ Business & Office
___ Health Occupations
___ Home Economics
___ Marketing/Distributive Educ.
___ Technical Education
___ Trade & Industrial
___ Other: _____

SPECIAL POPULATIONS

___ Speech Impaired
___ Deaf/Hearing Impaired
___ Visually Impaired
___ Orthopedically Impaired
___ Learning Disabled
___ Mentally Retarded
___ Emotionally Disturbed
___ Potential Dropouts
___ Other: _____

TARGET AUDIENCE: Vocational students in word processing class, grade 11

DESCRIPTION: This activity helps students become aware of inconsistencies in written material. The computer lab specialist in the word processing class composes two paragraphs of unedited material for students to proofread. The students must recognize errors and use proper proofreader's marks when indicating errors.

CONTACT: Computer Lab Specialist
Vern Riffe Joint Vocational School
23365 State Route 124
Piketon, OH 45661

Basic Skills Technique - 16

TECHNIQUE/PRACTICE: Reading Power Project

An inservice workshop for vocational-technical schools and industrial arts instructors

BASIC SKILLS EMPHASIZED

___ Mathematics
_X_ Communication
___ Science
___ Problem Solving
___ Other: _____

VOCATIONAL SERVICE AREA

___ Agriculture
___ Business & Office
___ Health Occupations
___ Home Economics
___ Marketing/Distributive Educ.
_X_ Technical Education
_X_ Trade & Industrial
___ Other: _____

SPECIAL POPULATIONS

___ Speech Impaired
___ Deaf/Hearing Impaired
___ Visually Impaired
___ Orthopedically Impaired
_X_ Learning Disabled
___ Mentally Retarded
___ Emotionally Disturbed
_X_ Potential Dropouts
_X_ Other: Can be offered to all students from gifted to disabled.

TARGET AUDIENCE: Trade and industrial arts instructors of vocational-technical programs, grades 9-12

DESCRIPTION: The vocational reading power project provides inservice training to trade and industrial arts teachers in study skills, vocabulary, word attack, comprehension, and computer-assisted instruction. A project director teaches the workshop. During a two-week training session, teachers develop and share lesson plans and instructional materials that incorporate project reading components. Teachers develop technical vocabulary glossaries relevant to their specific trade/career areas.

Students are pre- and posttested to show growth and mastery in basic skill areas. Evaluation of students and teachers is ongoing by the project director and a State Department of Education consultant. Materials include a project manual, teacher-prepared materials, and other prepared materials. Funding is provided for an artist-in-residence, computer instructor, and typist for the inservice workshop.

CONTACT: Reading Power Project
State Department of Education Consultant
Vocational-Technical School System
275 Windsor Street
Hartford, CT 06120

Basic Skills Technique - 17

TECHNIQUE/PRACTICE: Reinforcing Basic Skills

A teaching strategy that helps special needs vocational students increase vocabulary development and literal and interpretive comprehension

BASIC SKILLS EMPHASIZED

___ Mathematics
_X_ Communication
___ Science
___ Problem Solving
___ Other: _____

VOCATIONAL SERVICE AREA

_X_ Agriculture
_X_ Business & Office
_X_ Health Occupations
_X_ Home Economics
___ Marketing/Distributive Educ.
_X_ Technical Education
_X_ Trade & Industrial
___ Other: _____

SPECIAL POPULATIONS

___ Speech Impaired
_X_ Deaf/Hearing Impaired
_X_ Visually Impaired
___ Orthopedically Impaired
_X_ Learning Disabled
___ Mentally Retarded
_X_ Emotionally Disturbed
_X_ Potential Dropouts
_X_ Other: Other health-impaired

TARGET AUDIENCE: Special needs vocational students in language arts and basic skills reading classes, grades 9-12

DESCRIPTION: This strategy provides vocabulary development by emphasizing structural analysis and contextual clues and increases literal and interpretive comprehension by emphasizing recalling facts, understanding main ideas, and making inferences. Procedures are:

Structural analysis: A daily word attack reinforces individual prefixes, roots and suffixes.

Vocabulary in context: Types of context clues are identified, using skill book exercises and in context of stories.

Comprehension skills: Comprehension is developed by drill-work in exercises and within context of stories chosen for the comprehension they best illustrate; students' achievement is assessed by comprehension worksheets following each story and by criterion reference tests isolating specific skills.

Lessons are presented in a variety of modalities—oral and written instruction and responses and repetition of material. Writing skills, per se, are not emphasized, but rather comprehension of reading material is encouraged. Students work with computer software. Students in grades 9 and 10 are tested at the end of each school year. Students presently scheduled in remediation courses are tested with the Massachusetts Reading Test of Basic Skills. Failures continue with remediation for the following school year.

CONTACT: Pathfinder Regional Vocational-Technical High School
Route 181
Palmer, MA 01069

Basic Skills Technique - 18

TECHNIQUE/PRACTICE: Study Quest: Basic Skills - Reading

A strategy that help students develop questioning techniques to improve study skills

BASIC SKILLS EMPHASIZED

___ Mathematics
_X_ Communication
___ Science
___ Problem Solving
___ Other: _____

VOCATIONAL SERVICE AREA

_X_ Agriculture
_X_ Business & Office
_X_ Health Occupations
_X_ Home Economics
_X_ Marketing/Distributive Educ.
_X_ Technical Education
_X_ Trade & Industrial
___ Other: _____

SPECIAL POPULATIONS

___ Speech Impaired
___ Deaf/Hearing Impaired
___ Visually Impaired
___ Orthopedically Impaired
_X_ Learning Disabled
___ Mentally Retarded
___ Emotionally Disturbed
_X_ Potential Dropouts
___ Other: _____

TARGET AUDIENCE: Students in cooperative vocational education, grades 10-12

DESCRIPTION: Use of this technique has markedly improved students' comprehension of target materials, as shown by their completion of other students' study guides and teacher quizzes. To develop questioning techniques for improvement of study skills, students use a teacher-designed worksheet with question models as examples. Students then create their own questions from notes and texts. Question types include true/false statements, multiple choice and essay questions, lists, and diagrams. Students share questions with other students to gain feedback and develop usable study guides for tests. The technique uses a small group setting to enhance peer learning and teaching and individualized instruction.

The development of different types of questions allows students to develop questions that are most suitable to their learning style. It also gives them an opportunity to develop skill with questions they find hard to formulate and answer because the questions are not in keeping with their learning styles.

CONTACT: Reading Specialist
Brookhaven Occupational Center
350 Martha Avenue
Bellport, NY 11713

Basic Skills Technique - 19

TECHNIQUE/PRACTICE: Sustained Silent Reading

An activity that motivates students to enjoy reading

BASIC SKILLS EMPHASIZED

___ Mathematics
_X_ Communication
___ Science
___ Problem Solving
___ Other: _____

VOCATIONAL SERVICE AREA

_X_ Agriculture
_X_ Business & Office
_X_ Health Occupations
_X_ Home Economics
_X_ Marketing/Distributive Educ.
_X_ Technical Education
_X_ Trade & Industrial
___ Other: _____

SPECIAL POPULATIONS

___ Speech Impaired
___ Deaf/Hearing Impaired
___ Visually Impaired
___ Orthopedically Impaired
___ Learning Disabled
___ Mentally Retarded
___ Emotionally Disturbed
___ Potential Dropouts
___ Other: _____

TARGET AUDIENCE: Vocational students, grades 11 and 12

DESCRIPTION: To encourage students to enjoy reading, the school requires all students, faculty and administrators to stop work and read silently the first related period of the first day of the month. The reading material need not be related to class work, but may be a textbook, novel, magazine, or other material such as would be found in the school library.

The program has been in existence for about five years in the school.

CONTACT: Supervisor
Montgomery County Joint Vocational School
6800 Hoke Road
Clayton, OH 45315

Basic Skills Technique - 20

TECHNIQUE/PRACTICE: Vocational Village Reading Program

An individualized, skill/competency-based reading program for students reading below grade level

BASIC SKILLS EMPHASIZED

___ Mathematics
_X_ Communication
___ Science
___ Problem Solving
___ Other: _____

VOCATIONAL SERVICE AREA

_X_ Agriculture
_X_ Business & Office
_X_ Health Occupations
_X_ Home Economics
_X_ Marketing/Distributive Educ.
_X_ Technical Education
_X_ Trade & Industrial
___ Other: _____

SPECIAL POPULATIONS

___ Speech Impaired
___ Deaf/Hearing Impaired
___ Visually Impaired
___ Orthopedically Impaired
_X_ Learning Disabled
_X_ Mentally Retarded
_X_ Emotionally Disturbed
_X_ Potential Dropouts
_X_ Other: Any student reading below grade level

TARGET AUDIENCE: Special needs students and other students reading below grade level, grades 9-12

DESCRIPTION: Developed for an alternative high school, the aim of the program is to take students where they are and help them increase skills as much as possible while they are in the reading program. Students spend an average of 9.4 weeks in the class and make an average gain of 1.35 grade levels.

The program centers on 12 diagnostic levels tests and skill sheets, on which the reading teachers have cross-referenced all reading materials by grade level and skill. Each student is tested and given an individualized program to follow. Students receive credit based on the improvement shown on their reading tests. Much positive reinforcement is given. The teachers have developed their own level tests and skill sheets. They also use many different published materials.

The reading teachers worked with the vocational instructors to help them rewrite their curricula at a lower level. For example, the safety unit in auto shop was at an 11th grade reading level. The teacher rewrote it on a 4th grade level so lower level reading students could complete it successfully.

CONTACT: Reading Teacher
Vocational Village High School
5040 S.E. Milwaukie Avenue
Portland, OR 97202

Basic Skills Technique - 21

TECHNIQUE/PRACTICE: Following Written and Oral Instructions

An activity that gives students experience in following instructions and taking notes

BASIC SKILLS EMPHASIZED

___ Mathematics
_X_ Communication
___ Science
_X_ Problem Solving
___ Other: _____

VOCATIONAL SERVICE AREA

___ Agriculture
_X_ Business & Office
___ Health Occupations
___ Home Economics
___ Marketing/Distributive Educ.
___ Technical Education
___ Trade & Industrial
___ Other: _____

SPECIAL POPULATIONS

___ Speech Impaired
___ Deaf/Hearing Impaired
___ Visually Impaired
___ Orthopedically Impaired
___ Learning Disabled
___ Mentally Retarded
___ Emotionally Disturbed
___ Potential Dropouts
_X_ Other: _____

TARGET AUDIENCE: Vocational students in business and office courses, grades 11 and 12

DESCRIPTION: This activity helps students learn to write down instructions, read instructions, listen to teacher instructions, and interpret correctly their meaning. The teacher explains the weekly assignment and discusses manuscripts, tables, letters, and special projects. Students may ask questions at that time. Students type for the teacher the instructions they received, making a carbon copy for themselves.

This procedure is used for the first semester only.

Students have learned to refer to their notes and discuss assignments with the teacher when they did not obtain enough information. Eventually, students ask fewer and fewer questions.

CONTACT: Business and Office Department
Ellet High School
309 Wolfe Avenue
Akron, OH 44312

Basic Skills Technique - 22

TECHNIQUE/PRACTICE: Individualized Instruction

A remediation program in which students learn basic skills in their own learning style, working for mastery

BASIC SKILLS EMPHASIZED

___ Mathematics
_X_ Communication
___ Science
_X_ Problem Solving
___ Other: _____

VOCATIONAL SERVICE AREA

___ Agriculture
_X_ Business & Office
___ Health Occupations
___ Home Economics
___ Marketing/Distributive Educ.
___ Technical Education
___ Trade & Industrial
___ Other: _____

SPECIAL POPULATIONS

___ Speech Impaired
___ Deaf/Hearing Impaired
___ Visually Impaired
___ Orthopedically Impaired
___ Learning Disabled
___ Mentally Retarded
___ Emotionally Disturbed
_X_ Potential Dropouts
_X_ Other: Disadvantaged voca-
___ Other: tional student

TARGET AUDIENCE: Potential dropouts and disadvantaged vocational students, in a model office/secretarial skills training course, grades 10-12

DESCRIPTION: This program provides remediation and reinforcement of basic skills for students performing below grade level on standardized pretests. One component of the program is that second semester seniors may work toward passing a Civil Service or State Employment Test. Techniques used for these students include identification, diagnosis, prescription, specialized materials, team teaching, computer-assisted instruction, drill and practice, and posttesting. Lesson plans are varied with many modes and frequent checks for understanding in an effort to reach all styles of learning.

Activities used to reinforce skills are videotapes, outside speakers, computer programs and test-taking experiences. Certification and employment are two student rewards. Federal examiners come to the school to administer the Civil Service examination to graduating seniors.

Evidence of effectiveness is the large numbers of graduates who find and keep jobs. Students know employee-employer relations, good work habits, and basic skills as well as office-related skills.

The program for students in all grades focuses on individualized units of instruction that enhance the use of basic skills in English.

Students are taught to meet school standards for graduation credit, but are allowed to learn and practice basic skills in their own learning style. Topics include grammar, writing, spelling, proofreading, use of reference materials, report writing, and practical applications, especially those found in the business world. At the same time, filing, office procedures, keyboarding and word processing skills are taught.

continued next page

TECHNIQUE/PRACTICE: Individualized Instruction—*Continued*

Students compete only against themselves and are encouraged to work as hard and as fast as they can to achieve at the highest level possible. Students attend class in a 2-hour block and receive 1 hour of English credit. Most students can also be found in class before and after school hours. Most (75%) are employed by the end of the year. Overall, more than 80% of the students have achieved success in the program by advancing to higher levels of training or finding employment.

Students are allowed to experience all areas of the subject matter, recognize specific areas that need their immediate attention, and work to develop new competencies. They use equipment to produce work. Assessment is frequent to reduce stress. Students are conditioned in test-taking skills. All feedback is positive.

Support has been outstanding. An advisory committee directs the curriculum.

CONTACT: Business Instructor
Hogan Senior High School
850 Rosewood Avenue
Vallejo, CA 94591

Basic Skills Technique - 23

TECHNIQUE/PRACTICE: Vocational-Technical School Reading Centers

A program of reading instruction for vocational students, using reading computer laboratories

BASIC SKILLS EMPHASIZED

___ Mathematics
_X_ Communication
___ Science
_X_ Problem Solving
___ Other: _____

VOCATIONAL SERVICE AREA

___ Agriculture
___ Business & Office
___ Health Occupations
___ Home Economics
___ Marketing/Distributive Educ.
_X_ Technical Education
_X_ Trade & Industrial
___ Other: _____

SPECIAL POPULATIONS

___ Speech Impaired
___ Deaf/Hearing Impaired
___ Visually Impaired
___ Orthopedically Impaired
_X_ Learning Disabled
___ Mentally Retarded
_X_ Emotionally Disturbed
_X_ Potential Dropouts
_X_ Other: Any student (gifted to remedial) who needs reading.

TARGET AUDIENCE: Students in technical education and trade and industry, grades 9-12, who need help with reading

DESCRIPTION: Students get reading instruction in a reading classroom/laboratory fully equipped with the hardware and software needed to operate a full developmental reading program. The basic core program consists of a minimum of four periods of reading a week during a student's related cycle. During shop cycle, the student returns to the center for two periods of reading a week to support shop theory and the content area skills. The student's reading teacher provides consultative skills to related and trade teachers in a team-teaching approach. Teachers get inservice regularly.

The Reading Center Instruction gives students the basic skill support needed to master trade theory and related instruction.

CONTACT: Reading Centers
State Dept. of Education Consultant
Vocational-Technical School System
Hartford Graduate Center
275 Windsor Street
Hartford, CT 06120

Basic Skills Technique - 24

TECHNIQUE/PRACTICE: Assessment and Remediation for Mainstreaming

A support system to provide remedial services in basic skills and other areas to handicapped vocational students

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- ___ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- ___ Business & Office
- ___ Health Occupations
- ___ Home Economics
- X Marketing/Distributive Educ.
- X Technical Education
- X Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- X Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- X Learning Disabled
- X Mentally Retarded
- X Emotionally Disturbed
- ___ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Mainstreamed vocational students, grades 10-12

DESCRIPTION: Assessment and Remediation for Mainstreaming (A.R.M.) is a support system similar to a special education resource room that provides remedial services to meet the individual needs of handicapped vocational students. It reassesses vocational interests and aptitudes and teaches specific vocational readiness skills when needed.

A.R.M. teachers work with students on related math, vocabulary, safety, and specific manual skills at the direction of the mainstream teacher. This is done either in the A.R.M. resource room or mainstream shop.

Students are assessed by standardized tests, computer-generated tests, teacher tests, and competency-based checklists. Tests and techniques are adapted to accommodate individual learning styles.

All materials are adapted from those used by mainstream shop teachers. Equipment similar to that used in the mainstream shop is used in the A.R.M. resource room and is arranged in mini-shop areas.

As a result of the program, more 10th grade handicapped students are staying in vocational programs instead of returning to special education programs. Many failing or near-failing students have raised their grades enough to pass.

CONTACT: Head of Pupil Services
Altoona Area Vocational-Technical School
1500 Fourth Avenue
Altoona, PA 16602-3695

Basic Skills Technique - 25

TECHNIQUE/PRACTICE: Computer-Assisted Instruction for Special Populations

A remedial instruction laboratory for special needs vocational students

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- ___ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- X Agriculture
- X Business & Offic
- X Health Occupations
- X Home Economics
- X Marketing/Distributive Educ.
- ___ Technical Education
- X Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- X Learning Disabled
- X Mentally Retarded
- X Emotionally Disturbed
- X Potential Dropouts
- X Other: Academically disadvantaged

TARGET AUDIENCE: Special population students mainstreamed in vocational programs, grades 10-12

DESCRIPTION: This program of instruction uses a remedial instruction lab to help students in special populations learn reading and math skills as they relate to vocational training. The lab primarily uses computers for instruction to special populations, including disadvantaged and handicapped students.

Some students who are having problems with math and/or language arts attend the lab on a regular basis twice a week. Others use the lab as problems occur for which they need help.

The lab instructor is generally an academic teacher or a degreed vocational teacher. The program is in its third year in four schools in the state.

CONTACT: Consultant
Office of Vocational Education
1429 Senate Street
Columbia, SC 29201

Basic Skills Technique - 26

TECHNIQUE/PRACTICE: Math Competency and Reading Skills

A remediation program in which specialists reinforce basic skills learning

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- ___ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- X Business & Office
- ___ Health Occupations
- X Home Economics
- ___ Marketing/Distributive Educ.
- ___ Technical Education
- X Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Vocational students, grades 10-12

DESCRIPTION: This technique reinforces basic skills learning using additional teachers and materials. First, the teacher identifies students with math or reading problems. Then students have special sessions with a teacher, using the materials, which are primarily computer software. A pretest and posttest are used to measure growth. Math competency has increased since the technique has been used..

CONTACT:

Trade and Industrial Supervisors
Lake County Joint Vocational School
8140 Auburn Road
Painesville, OH 44077

Middletown City Schools
4420 Manchester Road
Middletown, OH 45044

Basic Skills Technique - 27

TECHNIQUE/PRACTICE: Classroom Newscast

A strategy for enhancing basic skills and other skills through production of a TV newscast

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- X Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- ___ Business & Office
- ___ Health Occupations
- ___ Home Economics
- ___ Marketing/Distributive Educ.
- ___ Technical Education
- ___ Trade & Industrial
- X Other: Vocational guidance class

SPECIAL POPULATIONS

- X Speech Impaired
- X Deaf/Hearing Impaired
- X Visually Impaired
- ___ Orthopedically Impaired
- X Learning Disabled
- X Mentally Retarded
- X Emotionally Disturbed
- ___ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Special needs students in high school vocational-technical programs (ungraded)

DESCRIPTION: This technique allows students to express their ideas in writing and verbalize them with clarity. The students write and produce their own TV newscast about world, local, and/or school-related topics. The teacher outlines the procedures and roles to be included and assigns various activities, keeping in mind students' individual strengths and weaknesses. After receiving a checklist of their own specific activities, students research and write their newscast parts. The teacher and an aide review the writing assignment and help make corrections and make a large print final copy for rehearsal. Practice and rehearsal of parts follow, the show is organized, and finally a videotape of the newscast is made. In addition to the basic skills practice mentioned, the project gives students a simulated work experience focusing on such skills as peer cooperation, completing tasks within a given time frame, following written and verbal direction (one and multi-step tasks), personal appearance and appropriate dress, and developing new skills.

Support by parents includes monitoring students when they practice at home. A letter explaining the procedure is sent home.

CONTACT: Director of Guidance
Pathfinder Regional Vocational-Technical High School
Route 181
Palmer, MA 01069

Basic Skills Technique - 28

TECHNIQUE/PRACTICE: Incorporating Basic Skills in Home Economics

A program integrating basic skills practice in home economics in the form of communication, math and problem-solving activities

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- X Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- ___ Business & Office
- ___ Health Occupations
- X Home Economics
- ___ Marketing/Distributive Educ.
- ___ Technical Education
- ___ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Vocational students in home economics, grades 10-12

DESCRIPTION: Several activities help reinforce basic skills in child development, family living, food service and home furnishings classes. Students work with vocabulary words and definitions to help with reading. They write research papers and article summaries periodically. They work with math in measuring, budgeting, calculating cost per serving, and doing percents. Students are involved in reading and writing, hands-on projects, and solving problems throughout the courses.

The classroom has a computer and calculators for use. Parents, administrators, and counselors need to be aware that home economics includes basic skills that can be learned for everyday life. When basic skills are incorporated into topics students need to learn for everyday life, they can see a purpose for learning the skills.

CONTACT: Home Economics Department Head
Laramie Senior High School
1275 North 11th
Laramie, WY 82070

Basic Skills Technique - 29

TECHNIQUE/PRACTICE: Lab for Special Needs Students

Assessment and remediation of basic skills by a vocational teacher's aide using computer-assisted instruction

BASIC SKILLS EMPHASIZED

- _X_ Mathematics
- _X_ Communication
- ___ Science
- _X_ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- _X_ Agriculture
- _X_ Business & Office
- _X_ Health Occupations
- _X_ Home Economics
- _X_ Marketing/Distributive Educ.
- _X_ Technical Education
- _X_ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- _X_ Speech Impaired
- _X_ Deaf/Hearing Impaired
- _X_ Visually Impaired
- _X_ Orthopedically Impaired
- _X_ Learning Disabled
- _X_ Mentally Retarded
- _X_ Emotionally Disturbed
- _X_ Potential Dropouts
- _X_ Other: Other health impaired

TARGET AUDIENCE: Special needs students in vocational programs, grades 9-12

DESCRIPTION: This technique is used in about 35 courses taught in all vocational program areas. In a special lab, a vocational teacher's aide provides vocational assessment of students and follows up with support service in remediation. The lab primarily uses audio-visual techniques and computer-assisted instruction. Materials developed include a talent assessment program, interest inventory, and software.

Support is provided by administrators, counselors, and teachers, who must help direct students into the lab and then give encouragement and support. Administrators report that teachers and students like the technique and that teachers joyfully release students from class for the lab because they see something good happening.

CONTACT: Bladen County Board of Education
P.O. Box 37
Elizabeth, NC 28337

Basic Skills Technique - 30

TECHNIQUE/PRACTICE: Letter and Memo Writing

An activity that gives students experience in composing written material for communicating

BASIC SKILLS EMPHASIZED

- _X_ Mathematics
- _X_ Communication
- ___ Science
- _X_ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- _X_ Business & Office
- ___ Health Occupations
- ___ Home Economics
- ___ Marketing/Distributive Educ.
- ___ Technical Education
- ___ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Vocational students in cooperative office education, grades 10-12

DESCRIPTION: This activity allows students to learn to compose sentences that are short and concise. They learn to organize facts before writing, make outlines, choose words that are effective and positive, compose paragraphs, spell, proofread, edit, and evaluate their work.

The teacher gives the students tips for writing, sentence and paragraph formation, editing procedure, etc. Students review and compose a variety of letters and memos.

Students interview secretaries or general office workers and request sample letters and memos for review.

This activity includes group discussion, lecture, group projects, homework, and individualized work.

CONTACT: Cooperative Office Education Teacher
Whitehall-Yearling High School
675 S. Yearling Road
Whitehall, OH 43212

Basic Skills Technique - 31

TECHNIQUE/PRACTICE: Monthly Budget

An activity in which students enhance basic skills experience by preparing a monthly budget

BASIC SKILLS EMPHASIZED

- _X_ Mathematics
- _X_ Communication
- ___ Science
- _X_ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- _X_ Business & Office
- ___ Health Occupations
- ___ Home Economics
- ___ Marketing/Distributive Educ.
- ___ Technical Education
- ___ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Vocational students in Senior Intensive Office Education, grade 12

DESCRIPTION: Students in this class prepare a monthly budget to determine how much money they need to make in their entry-level positions. This helps them learn the true cost of living on their own, learn the value of a budget, learn to reevaluate the type of "dream car" they want, consider unexpected expenses, and appreciate more what their parents or guardians give them. Students are highly motivated to find the cost of items and add them to see what it will cost to live each month. Even if they dislike math, they see the need for using addition, subtraction, multiplication and division.

Families support the project by helping students determine cost for utilities, insurance costs, and other monthly living expenses. Some faculty members help with getting used car prices.

CONTACT: Business Education Teacher
Benjamin Logan High School
Box 98
Zanesfield, OH 43360

Basic Skills Technique - 32

TECHNIQUE/PRACTICE: On Your Own

An individualized program to enhance the basic skills and confidence of unsuccessful students

BASIC SKILLS EMPHASIZED

- _X_ Mathematics
- _X_ Communication
- ___ Science
- _X_ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- ___ Business & Office
- ___ Health Occupations
- _X_ Home Economics
- ___ Marketing/Distributive Educ.
- ___ Technical Education
- ___ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- _X_ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- _X_ Potential Dropouts
- _X_ Other: Students not successful in regular high school

TARGET AUDIENCE: Students in grades 9-12 who are not successful in regular high school classes

DESCRIPTION: This individualized learning program allows students to learn at their own rate and feel good about themselves. In a positive atmosphere, the student may select from over 20 self-contained units. Each packet contains a variety of learning approaches, such as filmstrips, manipulations, reading, and writing. The teacher provides study sheets to help the student process and apply information. The individualized units are teacher-made. Other resources are films, filmstrips, and computers. An aide is available to help students.

CONTACT: Home Economics Department Chair
Olympic High School
2730 Salvio Street
Concord, CA 94599

Basic Skills Technique - 33

TECHNIQUE/PRACTICE: Special Vocational Program Career Exploration

A program to enhance the employability skills and basic skills of special needs students

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- X Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- ___ Business & Office
- ___ Health Occupations
- ___ Home Economics
- ___ Marketing/Distributive Educ.
- ___ Technical Education
- ___ Trade & Industrial
- X Other: Developmental Occupational Programs I & II

SPECIAL POPULATIONS

- X Speech Impaired
- X Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- X Learning Disabled
- X Mentally Retarded
- ___ Emotionally Disturbed
- X Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Special needs students in grades 9-12

DESCRIPTION: The purpose of the program is to prepare students to get and keep a job through a pre-employment skills curriculum, with emphasis on improving basic skills as well. For example, to teach students to write a letter of application, the teacher would introduce the concept of applying for a job. Students would discuss it in class and take notes. They would read related textbook articles and conduct library research. Each student would give a 3-minute oral presentation of findings. Other activities might be a guest speaker or field trip. A test completes the sequence.

The teaching style is multiple and variable. It creates interest. Students must maintain enthusiasm and do not have time to lose interest. Support comes from the librarian, who helps with research, the counselor, and community business people, who act as guest speakers and career consultants.

CONTACT: Special Vocational Coordinator
Bardstown City Schools
400 N. 5th Street
Bardstown, KY 40004

Basic Skills Technique - 34

TECHNIQUE/PRACTICE: Student Initiative Builders

Techniques to build reasoning abilities and develop confidence

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- X Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- X Business & Office
- ___ Health Occupations
- ___ Home Economics
- ___ Marketing/Distributive Educ.
- ___ Technical Education
- ___ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Students in grade 11 cooperative vocational program

DESCRIPTION: Several techniques are used in a course on financial institutions that helps students develop confidence, try to find their own answers, try to help one another, enjoy more difficult subjects, and score better on tests.

To meet the above objectives, the teacher asks questions about assigned reading, asks application questions to make students think and apply knowledge, and walks students through a reasoning process to help them answer their own questions. Student vocational organization officer campaign speeches and research papers on related content areas are required. The teacher demonstrates a logical approach to math problems.

CONTACT: State Supervisor for Business Education
Upper Valley Joint Vocational School
8811 Career Drive
Piqua, OH 45356

Basic Skills Technique - 35

TECHNIQUE/PRACTICE: Vocational Tutoring

A program to tutor vocational students in all areas who need additional help

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- X Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- X Agriculture
- X Business & Office
- ___ Health Occupations
- X Home Economics
- X Marketing/Distributive Educ.
- ___ Technical Education
- X Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- X Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- X Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Vocational students, grades 11 and 12

DESCRIPTION: Tutoring is provided in all vocational courses to students who need assistance. Students are assessed and assigned a tutor. The tutor is provided with lesson plans and curriculum materials. Tutoring techniques are varied, based on student needs. Evaluations are conducted semi-annually and annually. Materials used include texts, workbooks and custom-designed tutorials. Computers and software are used for tutoring. Support from principal, directors, supervisors, guidance personnel, and teachers is beneficial.

CONTACT: Assistant Principal
Glen Oak High School
2300 Schneider N.E.
N. Canton, OH 44721

Basic Skills Technique - 36

TECHNIQUE/PRACTICE: Science Credit for Vocational Agriculture

A program that offers science credit or waiver for selected courses in vocational agriculture

BASIC SKILLS EMPHASIZED

___ Mathematics
___ Communication
_X_ Science
___ Problem Solving
___ Other: _____

VOCATIONAL SERVICE AREA

_X_ Agriculture
___ Business & Office
___ Health Occupations
___ Home Economics
___ Marketing/Distributive Educ.
___ Technical Education
___ Trade & Industrial
___ Other: _____

SPECIAL POPULATIONS

___ Speech Impaired
___ Deaf/Hearing Impaired
___ Visually Impaired
___ Orthopedically Impaired
___ Learning Disabled
___ Mentally Retarded
___ Emotionally Disturbed
___ Potential Dropouts
___ Other: _____

TARGET AUDIENCE: Vocational agriculture students, grades 9 and 10

DESCRIPTION: This technique allows students to receive science credit for selected vocational agriculture classes. Most commonly, an analysis is completed of the relationship between the content of the science courses and the competencies in vocational agriculture courses. Ordinarily, students receive elective credit for the first year of vocational agriculture and science credit on the successful completion of the second year. The classes usually approved for credit are Agriculture Science 1 and 2, the core curriculum. The school accrediting association recognizes that vocational agriculture teachers have backgrounds in science in their content areas and are qualified to teach it.

CONTACT: State Supervisor of Agriculture
Department of Education
1535 W. Jefferson
Phoenix, AZ 85007

Basic Skills Technique - 37

TECHNIQUE/PRACTICE: Comprehensive Competencies Program (CCP)

A self-paced, open-entry, open-exit, individualized lab training program emphasizing basic skills

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- X Science
- ___ Problem Solving
- X Other: Life skills, Social studies

VOCATIONAL SERVICE AREA

- ___ Agriculture
- X Business & Office
- ___ Health Occupations
- X Home Economics
- X Marketing/Distributive Educ.
- ___ Technical Education
- X Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- X Potential Dropouts
- X Other: "In school" dropouts

TARGET AUDIENCE: Vocational students who are potential dropouts, grades 9-12

DESCRIPTION: CCP is a lab where academic and functional skills are taught by the use of computers, using vocational methods. Three secondary schools in the country have these labs. The program is designed to start students at their level and advance them at their own pace. It is open-entry, open-exit, individualized learning. Designed with basic skills in mind, the program at one school covers three areas: basic skills, occupational knowledge and office occupational training (computer). At another school, several areas are included. All students are pre- and posttested, with mastery set at 75%. At one school, students in the program show exceptional growth on nationally normed pre- and posttests. At another school, CCP has raised academic skills as much as four grade levels in 3 months. In addition to printed material, the teachers use audiovisual and computer-assisted instruction.

CONTACT:

Director/Instructor
Comprehensive Competencies Program
Centennial School District R-1
Box 347
San Luis, CO 81152

Vocational Director
South Penobscot Vocational School
200 Hogan Road
Bangor, ME 04401

Basic Skills Technique - 38

TECHNIQUE/PRACTICE: Computer-Assisted Instruction

A dropout prevention plan emphasizing pre-employment skills training

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- ___ Problem Solving
- X Other: Computer literacy

VOCATIONAL SERVICE AREA

- ___ Agriculture
- ___ Business & Office
- ___ Health Occupations
- ___ Home Economics
- ___ Marketing/Distributive Educ.
- X Technical Education
- ___ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- X Potential Dropouts
- X Other: Academically and financially disadvantaged

TARGET AUDIENCE: Low-achieving students identified as potential dropouts, grade 9

DESCRIPTION: This model combines remedial instruction in reading, writing and math, and introductory pre-employment skills training in computer education. Students are scheduled for one period of remedial reading and math daily. Computer training is an important component of the program. Students get pre-employment skills in basic uses of the computer while using computer software programs to learn and reinforce their reading and math skills.

Students get vocational guidance individually and in small support groups.

Classes are limited to 10 students, each of whom has access to a computer. A certified teacher teaches five classes of computer science/remedial academics daily. The program is highly individualized. Attention is given basic reading and math skills that test data show students have not mastered.

The first year, students gained 8 months in reading and 1.9 years in math in a 5-month period. During the second year, students gained 1.9 years in reading and 2.1 years in math. All students showed 50% improvement in computer literacy and were punctual for class 90% of the time. Attendance was increased by 84% of the students.

CONTACT: Assistant Superintendent for Instruction
Burlington City Schools
1712 Vaughn Road
Burlington, NC 27215

Basic Skills Technique - 39

TECHNIQUE/PRACTICE: Curriculum Infusion

A district program integrating basic skills into vocational education specialty areas

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- X Science
- ___ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- ___ Business & Office
- X Health Occupations
- ___ Home Economics
- ___ Marketing/Distributive Educ.
- X Technical Education
- X Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: All vocational students, grades 11 and 12

DESCRIPTION: This strategy began with reading courses or inservice training for all vocational teachers. A supervisor of basic studies was hired to observe each class about 45 minutes a week. The supervisor has been able to spot student problems and suggest remedial teaching strategies. Students learn notetaking, outlining, and study skills from the vocational teacher or supervisor as part of the regular classroom activities. All students keep notebooks, which become shop manuals and are often used by graduates on the job. Teaching basic skills has enhanced the delivery of vocational knowledge. Also, results of standardized tests show students are acquiring reading and comprehension skills. The program has been broadened to include functional mathematics, test-taking, and computer literacy skills, which are taught during the 45-minute period. Math processes are related directly to the performance aspects of the trade area. Computers are used as backup remediation tools.

Applied science education has been a direct offshoot of the program. The processes that make things happen are taught in lecture and reinforced in shop experiments and projects.

Teachers are more aware of student problems and refer students to the basic studies supervisor for testing or diagnosis. Students may be instructed in remedial techniques and given additional materials, or teachers may be given a suggestion on how to help a student with a problem. Vocationally oriented materials help teach necessary skills and are shared with other teachers in the district.

CONTACT: Supervisor of Basic Studies
Ocean County Vocational-Technical Schools
Old Freehold Road and Bey Lea
Toms River, NJ 08753

Basic Skills Technique - 40

TECHNIQUE/PRACTICE: Entry-Level Skills Criteria

A program to assess and remediate the entry-level skills of handicapped students before entry to a vocational program

BASIC SKILLS EMPHASIZED

___ Mathematics
___ Communication
___ Science
___ Problem Solving
_X_ Other: Vocational

VOCATIONAL SERVICE AREA

_X_ Agriculture
_X_ Business & Office
_X_ Health Occupations
_X_ Home Economics
_X_ Marketing/Distributive Educ.
_X_ Technical Education
_X_ Trade & Industrial
___ Other: _____

SPECIAL POPULATIONS

_X_ Speech Impaired
_X_ Deaf/Hearing Impaired
_X_ Visually Impaired
_X_ Orthopedically Impaired
_X_ Learning Disabled
_X_ Mentally Retarded
_X_ Emotionally Disturbed
_X_ Potential Dropouts
___ Other: _____

TARGET AUDIENCE: Handicapped students, grades 9 and 10 (could be used with junior high students as well)

DESCRIPTION: A state model, this program gives handicapped students the entry level skills needed to be successful in a mainstreamed vocational education program. The procedure involves identifying the entry level skills a student currently possesses and teaching the entry level skills the student does not possess. The process is conducted by vocational instructors and special education teachers. Students are vocationally evaluated, both formally and informally. Upon completion of the vocational evaluation, students complete the appropriate entry-level skills activities. The actual instruction is the responsibility of the special education teacher before the student's entrance to a vocational program.

The curriculum and skills list have been field-tested. If a formal evaluation is conducted, special equipment may be required.

Support is needed from both special education and vocational education personnel. Parental support is beneficial.

CONTACT: Director
College of Education - Missouri LINC
609 Maryland
University of Missouri
Columbia, MO 65211

Basic Skills Technique - 41

TECHNIQUE/PRACTICE: Individualized Manpower Training System (IMTS)

a systematic support system for meeting the needs of the disadvantaged vocational student by reinforcing basic skills through assessment and individualized instruction

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- X Problem Solving
- X Other: Computer skills

VOCATIONAL SERVICE AREA

- X Agriculture
- X Business & Office
- X Health Occupations
- X Home Economics
- X Marketing/Distributive Educ.
- ___ Technical Education
- X Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- X Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- X Learning Disabled
- X Mentally Retarded
- X Emotionally Disturbed
- X Potential Dropouts
- X Other: Academically disadvantaged; Non-English speaking

TARGET AUDIENCE: Disadvantaged vocational students, grades 10-12

DESCRIPTION: IMTS is a systematic support system designed to reinforce the basic skills of the disadvantaged vocational student. It is an individualized program that takes place in a well-equipped learning lab. The system includes four component programs: academic skills, complementary skills, employability behavior, and occupational exploration. The student can experience success and gain confidence while working toward a selected vocational goal. IMTS provides remediation in academics that are prerequisite to vocational training. It saves student time by remediating only the learning deficiencies identified by diagnostic measures. Students thus accomplish the shortest term.

After an initial interview, diagnosis and prescription are made for each student in each subject needing remediation, using standardized tests. The prescribed learning modules treat small increments of learning in a carefully prepared hierarchy of skills. Progress checks or module tests are a part of each learning module. Computer-assisted instruction is often used as students work with the self-instructional materials. The teacher provides a positive learning environment with immediate and frequent feedback. This allows the teacher to revise and refine the student's prescription, and encourages motivation and success. After successful remediation, the student exits IMTS.

CONTACT: IMTS Counselor/Coordinator
Leto Comprehensive High School
4409 West Sligh Avenue
Tampa, FL 33614

Basic Skills Technique - 42

TECHNIQUE/PRACTICE: Occupationally Related Math and Reading (Basic Skills)

A program to improve math and reading in cooperative vocational programs through diagnostic prescriptive teaching and individualized instruction

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- ___ Problem Solving
- X Other: Employability skills, behavior modification (positive reinforcement), written driver's exam

VOCATIONAL SERVICE AREA

- X Agriculture
- X Business & Office
- X Health Occupations
- X Home Economics
- X Marketing/Distributive Educ.
- ___ Technical Education
- X Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- X Speech Impaired
- X Deaf/Hearing Impaired
- X Visually Impaired
- X Orthopedically Impaired
- X Learning Disabled
- X Mentally Retarded
- X Emotionally Disturbed
- X Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Students in a cooperative vocational education program, grades 10-12

DESCRIPTION: This technique uses individualized instruction to improve those occupationally related math and reading skills students need to succeed in their trade areas. Students' skills are assessed prior to learning activities. Students are then taught the necessary skills they do not possess. The model of diagnostic prescriptive teaching uses informal assessment instruments. Individualized instruction is available by both academic level and trade area.

Specialized materials—computer programs, vocabulary lists, trade/academic teacher activity sheets, visual aids, equipment, and technical manuals—are used to teach the trade-related skills. Positive reinforcement is emphasized. All modalities are utilized as necessary (visual, tactile, etc.), in order for students to grasp the subject matter or skill. Shop instructors provide the basic skills teachers with related academic information.

The program effects an increase in students' passing RCT math, reading, and writing exams, and the written driver's exam. There is trade testing and application, motivation and learning due to the relationship between acquiring the skill and success in a trade and to the emphasis on only the specific skills needed in a particular trade area.

CONTACT: Basic Skills Reading Specialist
BOCES 2 Islip Career Center
379 Locust Avenue
Oakdale, NY 11769

Basic Skills Technique - 43

TECHNIQUE/PRACTICE: Reinforcing Basic Skills

A program that uses applied teaching and an elective period for reinforcement and remediation

BASIC SKILLS EMPHASIZED

- _X_ Mathematics
- _X_ Communication
- _X_ Science
- _X_ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- ___ Business & Office
- ___ Health Occupations
- ___ Home Economics
- ___ Marketing/Distributive Educ.
- ___ Technical Education
- _X_ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Students in all trade and industrial courses, grades 11 and 12

DESCRIPTION: This technique involves teaching applied math, science and communications—the "core academics"—in all trade & industry courses to reinforce basic skills. In addition, teachers offer an elective period so students can make up deficiency academic credit, promote advanced academics, and explore an interest or a tested deficiency. All courses meet or exceed elementary and secondary guidelines.

Total staff effort has been involved. Additional equipment used includes science lab equipment ($20,000), math equipment ($7,000), and textbooks and other supplies ($2,000).

Using this technique has resulted in improved math scores and employer interview comments.

CONTACT: Vocational Supervisor
Pioneer Joint Vocational School
Box 309, Ryan Road
Shelby, OH 44875

Basic Skills Technique - 44

TECHNIQUE/PRACTICE: Reinforcing Basic Skills in Home Economics

Inservice training that gives teachers strategies to reinforce basic skills in Consumer Home Economics.

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- ___ Problem Solving
- X Other: Critical thinking

VOCATIONAL SERVICE AREA

- ___ Agriculture
- ___ Business & Office
- ___ Health Occupations
- X Home Economics
- ___ Marketing/Distributive Educ.
- ___ Technical Education
- ___ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Students in vocational Consumer Home Economics, grades 9-12

DESCRIPTION: This program helps teachers of Consumer Home Economics (CHE) prepare students better to achieve academically in both CHE courses and other required courses. In addition, the program helps students increase test-taking skills.

Three district inservices a year prepare teachers in basic test-taking techniques and strategies for teaching reading, writing, math, and critical thinking skills for the content area of CHE. Teachers are given student-ready materials and practice strategies to use in the classroom.

While the program is for all CHE areas, the techniques are emphasized in Sociology for Living, the family living course in which the district administers the California Assessment Program Test. Scores have improved dramatically in the two years the program has been used.

Most materials used are curriculum materials from the course that emphasize the teaching of basic skills. Support for the program must come from administrators, who need to encourage teachers to reinforce basic skills and provide inservice training.

CONTACT: Coordinator of Consumer Home Economics
Fresno Unified School District
Tulare and M Streets
Fresno, CA 93721

Basic Skills Technique - 45

TECHNIQUE/PRACTICE: Reinforcing Basic Skills in Vocational Education Programs: A Comparative Model

Team building and support as a way of improving teaching practices and student performance in basic skills

BASIC SKILLS EMPHASIZED

- ___ Mathematics
- _X_ Communication
- ___ Science
- _X_ Problem Solving
- _X_ Other: Improving self-concept, Study skills/work habits

VOCATIONAL SERVICE AREA

- _X_ Agriculture
- _X_ Business & Office
- _X_ Health Occupations
- _X_ Home Economics
- _X_ Marketing/Distributive Educ.
- _X_ Technical Education
- _X_ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- _X_ Potential Dropouts
- _X_ Other: High risk students as identified by teacher teams

TARGET AUDIENCE: Moderate to high risk cooperative vocational students, grades 9-12

DESCRIPTION: Teams of two academic and two or three vocational teachers are involved in week-long seminars, participating in experiential activities such as simulations, role playing, games, and small group activities. These are designed to improve self-esteem and facilitate commitment to the team. Problem solving is explained as a life skill and a process appropriate to most disciplines. Ways to incorporate problem solving activities into classes are demonstrated. The teachers learn ways to improve student writing processes and work habits.

After the seminar, each team targets a group of moderate- to high-risk students to support during the year. Teams develop objectives, a plan for meeting them, and a timeline for working with the students. Teams meet at least 1 hour a week for planning. Materials used are teacher-generated.

CONTACT: Basic Skill Project Coordinator
State Division of Vocational Education
650 W. State
Boise, ID 83720

Basic Skills Technique - 46

TECHNIQUE/PRACTICE: Story Problem Solving

An activity that uses imagination and creativity to reinforce basic skills

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- X Problem Solving
- X Other: Reasoning

VOCATIONAL SERVICE AREA

- ___ Agriculture
- ___ Business & Office
- ___ Health Occupations
- ___ Home Economics
- ___ Marketing/Distributive Educ.
- ___ Technical Education
- X Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- X Other: Behaviorally impaired

TARGET AUDIENCE: Vocational students, grades 10-12

DESCRIPTION: To use this technique, the teacher sets up an imagined project, such as a weekend camping trip for 20 people. Students determine the quantity of supplies, logistics, activities, clothing required, etc. From their planning and perceptions of the camping trip, students provide detailed written information about weight of supplies and clothing to be carried, time allotted to activities, quantity of clothing and supplies needed.

Discussion with students makes the problems realistic. Materials used are writing materials and the student's imagination.

CONTACT: State Supervisor SW Region IV
State Department of Education
65 S. Front Street
Columbus, OH 43226

Basic Skills Technique - 47

TECHNIQUE/PRACTICE: Support Services for Special Needs Students

A program that uses aides and itinerant resource persons to provide support services to enhance the basic skills of special needs vocational students.

BASIC SKILLS EMPHASIZED

- ___ Mathematics
- ___ Communication
- ___ Science
- ___ Problem Solving
- _X_ Other: All basic skills that support vocational skills

VOCATIONAL SERVICE AREA

- _X_ Agriculture
- ___ Business & Office
- _X_ Health Occupations
- ___ Home Economics
- _X_ Marketing/Distributive Educ.
- _X_ Technical Education
- _X_ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- _X_ Speech Impaired
- _X_ Deaf/Hearing Impaired
- _X_ Visually Impaired
- _X_ Orthopedically Impaired
- _X_ Learning Disabled
- _X_ Mentally Retarded
- _X_ Emotionally Disturbed
- ___ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Special needs students in cooperative vocational education, grades 10-12

DESCRIPTION: Three hundred special education students enrolled in a vocational program are eligible for support services. Most of these students enter the program without the skills to function productively in training and/or employment settings. Aides assist with such tasks as reading material, notetaking, review, organization of assignments, adapting learning materials, and reviewing for tests. Aides also provide physical access and mobility, safety, and support. The itinerate counselor/evaluates, consults, and provides special and transitional services daily.

The goals of the support services are to improve development of employability skills, provide up-to-date instructional equipment, develop a sense of worth, and provide competency-based and computer-based instruction.

The program has a placement rate of 80% in gainful employment. All students are eligible for the co-op program and are referred to the Office of Vocational Rehabilitation before they leave school.

CONTACT: Special Needs Counselor
Lehigh County Vocational-Technical School
2300 Main Street
Schnecksville, PA 18078

Joint Effort Practices

Joint Effort - 48

TECHNIQUE/PRACTICE: Model for Integrating Vocational Education and Math Skills

A process model to integrate math skills into vocational courses through joint effort

BASIC SKILLS EMPHASIZED

- _X_ Mathematics
- ___ Communication
- ___ Science
- ___ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- _X_ Agriculture
- _X_ Business & Office
- ___ Health Occupations
- _X_ Home Economics
- ___ Marketing/Distributive Educ.
- _X_ Technical Education
- _X_ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Vocational cooperative students, grades 9-12

DESCRIPTION: The purpose of this project was to develop a process model to be used statewide for integrating vocational education and math skills. A math skills checklist was used by project staff to identify math skills that were integrated into vocational courses and those that could be integrated. Each vocational teacher was paired with a math teacher in the same building. A peer-inservice model was developed to help math and vocational teachers identify teaching and learning styles and share methods of teaching specific applied math problems. Two guides were developed—an implementation guide and an inservice guide. Computer-Assisted Video Instruction Math Modules were developed to give students individualized help in learning basic math concepts.

Upon successful completion of a 2-year sequence of approved vocational classes, a student is awarded 1/2 math credit and 1 1/2 elective credits. The goal is to increase math ability of the lower 20% of students. One outcome of the program has been to enhance math instruction in the vocational classes and increase applied math instruction in the math classes.

Administrators must support the concept of math equivalency credit. Counselors have been involved in determining the process for student registration and approving the procedure for identifying math concepts integrated into vocational classes. Technical advisory committees have reviewed the technical math to be integra.

CONTACT: Curriculum Coordinator
Career and Vocational Education
Corvallis School District 509J
1555 S.W. 35th
Corvallis, OR 97333

TECHNIQUE/PRACTICE: Technical Math

A program that uses team teaching of math in vocational classrooms for math credit.

BASIC SKILLS EMPHASIZED

- _X_ Mathematics
- ___ Communication
- ___ Science
- ___ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- _X_ Agriculture
- _X_ Business & Office
- _X_ Health Occupations
- _X_ Home Economics
- _X_ Marketing/Distributive Educ.
- ___ Technical Education
- _X_ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Vocational students, grade 11

DESCRIPTION: The joint vocational school teaches math in related periods. The regular math teacher and vocational teacher are both in the classroom at one time. The school uses this practice because of extra math credits required by the feeder schools. This program gives students who are deficient in math credits a chance to make up credit. In addition to giving students the opportunity to earn math credit, the program has resulted in a big improvement in students' math skills, as shown by test scores.

CONTACT: Trade and Industry Supervisor
Ohio Hi-Point Joint Vocational School
2280 State Route 540
Bellefontaine, OH 43311

Joint Effort - 50

TECHNIQUE/PRACTICE: Applied Academics (Program Options)

A program coordinating language arts and math with vocational content

BASIC SKILLS EMPHASIZED

- _X_ Mathematics
- _X_ Communication
- ___ Science
- ___ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- ___ Business & Office
- ___ Health Occupations
- ___ Home Economics
- ___ Marketing/Distributive Educ.
- ___ Technical Education
- _X_ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Vocational students, grades 11 and 12

DESCRIPTION: This program coordinates language arts and math programs with vocational content. It is used in electronics, electricity, auto mechanics, and carpentry. Academic and vocational teachers meet daily to discuss direction and student progress. By discussing students' progress in both academic and vocational courses, the teachers can ensure that students who may be having problems won't be overlooked.

The curriculum is coordinated so that the English and math teachers focus learning activities on what students are doing in vocational courses. For example, students in English class may write a letter to a relative describing what they are doing in carpentry class and include the sequence of steps required to complete the work. In math the activities would also be related to carpentry.

The results of the program are improved student grades during the last two years. Attendance and behavior are also improved.

Another successful outcome of the program is the teamwork among the vocational, English and math teachers. The English and math teachers are teaching the approved curriculum while reinforcing vocational content same at the same time

Support comes from the administration and from counselors, who talk with students about the need for the program.

CONTACT: Supervisor
Cincinnati Public Schools
230 E. 9th Street
Cincinnati, OH 45241

Joint Effort - 51

TECHNIQUE/PRACTICE: Articulated Reading and Math Skills (ARMS)

A joint effort between occupational education courses and academic classes designed to improve the reading and math skills of disadvantaged in-school youth

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- ___ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- X Agriculture
- X Business & Office
- X Health Occupations
- ___ Home Economics
- X Marketing/Distributive Educ.
- ___ Technical Education
- X Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- X Potential Dropouts
- X Other: Students referred by vocational instructor

TARGET AUDIENCE: Disadvantaged occupational education students, grades 11 and 12

DESCRIPTION: A successful program, ARMS has resulted in students reaching growth in reading and math that has averaged 50% above grade level. The articulation between English and math classes and occupational courses is designed to improve the reading and math skills of disadvantaged students.

This improvement in reading ability, particularly as it relates to hands-on training in a trade, will help students secure and advance in training-related employment more easily.

Students are pretested by the schools, using a standardized math and reading test. The ARMS teacher coordinates reading with the academic and occupational education instruction by working with the academic and occupational education teachers. Individual learning programs in reading and math for each student are developed by the teachers, based on each student's occupational education program. Academic teachers use vocational textbooks in their work with the students. The test is given again at the end of the school year to determine growth. The goal is to improve reading and math skills by at least two grade levels. This program is unique in that it has marshalled the resources of separate agencies to work together on individualized training plans for JTPA-eligible participants, something not previously done in English and math instruction for the trade.

CONTACT: Director
Steuben-Allegany BOCES
RD 1
Bath, NY 14810

Joint Effort - 52

TECHNIQUE/PRACTICE: Basic Skills Instruction in Vocational Education

Teacher inservice training programs in reinforcing basic skills

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- ___ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- X Agriculture
- X Business & Office
- X Health Occupations
- X Home Economics
- X Marketing/Distributive Educ.
- X Technical Education
- X Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: All secondary vocational students, grades 9-12

DESCRIPTION: For teachers, the goal of this new program is to be skilled in incorporating and reinforcing basic skills in their vocational program lesson plans. For students, the goal is to learn how to apply basic skills to survive (i.e., in job performance and home management). The ultimate goal is to improve student performance on the state proficiency test and thus increase the number of high school graduates.

Each vocational teacher in the state will have the opportunity to be trained by state vocational staff in techniques for incorporating and reinforcing basic skills in the classroom. Teachers will learn how to modify existing lesson plans to emphasize basic skills.

CONTACT: Special Projects Consultant
State Department of Education
214A Cordell Hull Building
Division of Voc-Tech Education
Nashville, TN 37219

TECHNIQUE/PRACTICE: Basic Skills Remediation

A program in which a basic skills instructor teaches remedial reading and math in the vocational classroom

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- ___ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- X Agriculture
- X Business & Office
- X Health Occupations
- ___ Home Economics
- ___ Marketing/Distributive Educ.
- X Technical Education
- ___ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- X Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- X Learning Disabled
- X Mentally Retarded
- ___ Emotionally Disturbed
- X Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Vocational students who are deficient in reading and math, grades 10-12

DESCRIPTION: This program gives additional help to students who have difficulty mastering vocational skills because of a deficiency in reading, math, or communication skills. Reading and math are emphasized, but English is not, because most vocational students are enrolled in regular English classes at their home school; few are enrolled in reading or math classes.

A basic skills instructor serves as a tutor/teacher who works with individuals or small groups of students and acts as a resource person for the faculty. She is a certified instructor with extensive experience in the area of teaching reading.

As much as possible, students are taught basic skills in their regular vocational classroom environment. They receive instruction for about 30 minutes a day, 3 days a week.

Students are selected for the program by their scores on several tests and the recommendations of vocational instructors. An open channel of communication is recommended between administrators and counselors of feeder schools and administrators, counselors and the basic skills teacher of the area vocational-technical high school.

As a result of the program, 70% of the students improved in reading; 83% improved in math.

CONTACT: Basic Skills Teacher
Area Vo-Tech High School
1727 South Main Street
Jonesboro, AR 72401

TECHNIQUE/PRACTICE: Basic Skills Remediation for Handicapped and Disadvantaged Students

A program that provides weekly sessions in math, reading and language arts for handicapped and disadvantaged vocational students

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- ___ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- X Agriculture
- X Business & Office
- X Health Occupations
- X Home Economics
- ___ Marketing/Distributive Educ.
- X Technical Education
- ___ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- X Learning Disabled
- X Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- X Other: Disadvantaged

TARGET AUDIENCE: Disadvantaged and handicapped vocational students, grades 10-12

DESCRIPTION: All incoming vocational students are given the Adult Basic Education test. Students who qualify are given a half-day session each week in remediation in math, reading, and language arts. To qualify for the remediation program, a student must be two or more years below grade level in one or more vocational areas. A prescription is developed to strengthen basic skill weaknesses identified from the test. Students take a posttest at the end of remediation.

The acquisition of fundamental academic skills provides the student with the means to acquire basic vocational skills. Students test out of the academic program with 1 to 4 years' improvement between pre- and posttesting. Only about 5-10 of 125 students in the program have not shown improvement.

Administrators, counselors, employers and families need to support the joint effort by providing an environment conducive to learning.

CONTACT: Vocational Director
Cullman Area Vocational Center
Rt. 15, Box 1790
Cullman, AL 35055

TECHNIQUE/PRACTICE: Joint Academic Vocational Approach to Education (JAVA)

A joint effort to prepare students in both academic and vocational skills

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- ___ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- X Agriculture
- X Business & Office
- X Health Occupations
- X Home Economics
- X Marketing/Distributive Educ.
- X Technical Education
- X Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- X Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- X Potential Dropouts
- X Other: Students undecided about occupation or post-high school choice.

TARGET AUDIENCE: Potential dropout students in grades 9 and 10

DESCRIPTION: Eighth grade students are selected through application, principal/teacher recommendation, test scores, age, and grades to participate in the program during four years of high school. The goal of JAVA is to give students a better background to make a more realistic career decision. A team teaching approach is used. Students move through an individualized competency-based academic curriculum of English, math, science, and citizenship, taught at the students' high schools four hours a day. Students have vocational exploration 2 hours a day. They rotate through 12 occupational areas every 13 days. In the areas students complete tasks typical for each occupation.

In Phase II, students narrow the occupational areas to four choices. They spend nine weeks in each chosen occupational area and also take English, math, science, and physical education. In Phases III and IV, students complete the remaining academic graduation requirements. They narrow their occupational choices to one area and become half-day students at one of the state vocational schools or specialize in an occupational vocational area at their high school. If the students successfully complete the JAVA program and graduate from high school, they should be prepared for the world of work with a high school diploma and a vocational skill.

An exemplary curriculum was developed by the state, which received the American Vocational Association Award in 1982 as the most innovative curriculum.

Continued

TECHNIQUE/PRACTICE: Joint Academic Vocational Approach to Education (JAVA)—*Continued*

	As a result of JAVA, students' interest in school and attendance improve. Grade point average increases, but standardized math, reading and language arts have shown no significant increase during the first two phases of the project in one school reporting. In the other, students consistently score higher on basic skill assessment than their counterparts in the regular school program.

CONTACT:

Director of Special Programs
Hopkins County Schools
P.O. Box 509
Madisonville, KY 42431

Academic/Vocational Project Coordinator
Shawnee High School
4028 West Market Street
Louisville, KY 40212

Joint Effort - 56

TECHNIQUE/PRACTICE: Remediation in Basic Skills

A joint effort to increase the reading and math skills of students who test low

BASIC SKILLS EMPHASIZED

- _X_ Mathematics
- _X_ Communication
- ___ Science
- ___ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- ___ Business & Office
- ___ Health Occupations
- ___ Home Economics
- ___ Marketing/Distributive Educ.
- ___ Technical Education
- _X_ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- _X_ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- _X_ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Students in grades 11 and 12 in trade and industry; suggested for all vocational areas

DESCRIPTION: This effort begins with testing of all classes by math and reading teachers, who then work with vocational instructors to raise the reading and math skills of the lower students to acceptable levels.

The math and reading instructors both have aides to work with students and meet periodically with the administration to discuss progress and problems. No additional equipment is required.

Posttest scores show that some students increase basic skills scores slightly while others raise them considerably.

CONTACT: Supervisor, James A. Rhodes Career Center
1901 Selma Road
Springfield, OH 45505

TECHNIQUE/PRACTICE: Science Credit for Home Economics Course

A program that gives students the option of receiving science credit for a nutrition science course

BASIC SKILLS EMPHASIZED

- _X_ Mathematics
- _X_ Communication
- ___ Science
- ___ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- ___ Business & Office
- ___ Health Occupations
- _X_ Home Economics
- ___ Marketing/Distributive Educ.
- ___ Technical Education
- ___ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Vocational home economics students taking nutrition science, grades 9-12

DESCRIPTION: Students taking nutrition science may receive science credit to help fulfill graduation requirements. The home economics teacher has a background in home economics, nutrition, and science.

A wide variety of materials and teaching techniques is used. Reading, writing, and some math are integrated into the program. Most students successfully complete the course.

CONTACT: Home Economics Teacher
Monte Vista High School
3131 Stone Valley Road
Danville, CA 94526

Joint Effort - 58

TECHNIQUE/PRACTICE: Applied Academics Math and English

A joint effort to reinforce communications and math skills in vocational classes

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- X Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- ___ Business & Office
- ___ Health Occupations
- ___ Home Economics
- ___ Marketing/Distributive Educ.
- ___ Technical Education
- X Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- X Other: All special populations are mainstreamed into the classes

TARGET AUDIENCE: Students in auto mechanics, carpentry, construction electricity, and electronics, grades 11 and 12

DESCRIPTION: English, math and vocational content are interrelated so that what students learn in one course is reinforced in the other two. Applied Communications I & II (English 11 and 12) are specially designed to fulfill graduation requirements and also meet the need of relevancy for vocational students. They incorporate basic English courses of study adapted to specific vocational content. Applied Mathematics I and II meet the dual needs of systematic instruction and relevant math application. The content contains the core of at least one other accepted math course plus additional math processes required by each vocational course.

Team members meet daily to discuss curriculum, strategies, and problems, and to plan units of instruction. Teachers make materials/worksheets which dovetail with the vocational curriculum and student needs. Teachers must use texts approved for each course, but are encouraged to use additional texts as resources. Microcomputers are considered necessary equipment.

First-year scores showed an average improvement of +2 years, while a control group only showed a 1 year gain. Absences decreased, particularly in the spring. Grade point averages in the vocational programs increased 146%, while those of the control group increased 14%.

CONTACT: Vocational Education Associate Director
Claude V. Courter Education Center
230 East Ninth Street
Cincinnati, OH 45202

Joint Effort - 59

TECHNIQUE/PRACTICE: Coordinated Vocational Education and Training (CVET)

A joint effort to develop curriculum and teach basic skills and vocational subjects to academically disadvantaged and handicapped vocational students

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- X Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- ___ Business & Office
- ___ Health Occupations
- ___ Home Economics
- ___ Marketing/Distributive Educ.
- ___ Technical Education
- ___ Trade & Industrial
- X Other: Coordinated vocational education and training

SPECIAL POPULATIONS

- ___ Speech Impaired
- X Deaf/Hearing Impaired
- X Visually Impaired
- ___ Orthopedically Impaired
- X Learning Disabled
- X Mentally Retarded
- X Emotionally Disturbed
- X Potential Dropouts
- X Other: Other health impaired

TARGET AUDIENCE: Academically disadvantaged and handicapped vocational students, grades 9 and 10

DESCRIPTION: In this program, vocational teachers and academic teachers worked together with the help of the state curriculum center to develop related English, math, Science, and social studies curriculum. This curriculum is related to the vocational curriculum center for home and community services, construction, and mechanical clusters.

The curriculum is developed at a low level for academically disadvantaged and handicapped students. Vocational and related academic teachers coordinate their teaching.

Several studies have shown the CVET students' grades in academic subjects have improved.

CONTACT: State Supervisor
State Department of Voc-Tech Education
1515 West 7th Street
Stillwater, OK 74074-4364

Joint Effort - 60

TECHNIQUE/PRACTICE: Pre-Industrial Preparation Program

A joint effort for developing basic skills by relating occupational experiences to the basic skills

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- X Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- X Agriculture
- X Business & Office
- ___ Health Occupations
- X Home Economics
- X Marketing/Distributive Educ.
- ___ Technical Education
- X Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- X Other: Academically and economically disadvantaged

TARGET AUDIENCE: Academically deprived vocational students, grades 10-12

DESCRIPTION: This program is designed to help academically disadvantaged students improve basic verbal, scientific, and mathematical skills by correlating concrete occupational experiences to these skills. For example, in working with sheet metal in the metals technology course, students work with decimals, fractions, and concepts used in geometry and trigonometry and use these mathematical concepts to produce blueprints and drawings. These plans are then converted into an actual product (e.g., an aluminum duct). In science class, a study of air flow and air pressure is interwoven into the course work. The whole project is finally written and reported in English class.

The occupational experiences are directed by teachers with occupational competencies, and the academic skill development is done by subject matter teachers. All teachers participating in the program, together with the counseling and guidance personnel, comprise the closely coordinated professional team for this program in each school. While the "hands-on" activities are confined in the beginning to simulated laboratory situations, cooperative work experience later provides actual experiences in industry. Many of the materials used in this program are made by teachers involved in the program.

Student progress is evaluated by pre- and posttests in language, math, and science. Results show that students enrolled in this program have made gains in all three areas.

CONTACT: Educational Specialist
Occupational Development and Compensatory Education Section
491 Hind Inka Drive
Honolulu, HI 96821

TECHNIQUE/PRACTICE: Principles of Technology

A course on technical principles of society that teaches math and physics to vocational students

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- X Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- X Agriculture
- X Business & Office
- X Health Occupations
- X Home Economics
- X Marketing/Distributive Educ.
- X Technical Education
- X Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- X Other: Students who are at least 10th grade level in reading and math

TARGET AUDIENCE: Vocational students in grades 10-12

DESCRIPTION: The purpose of this course is to give vocational students a basic understanding of the technical principles upon which our modern society is based. Principles of Technology is a two-year course developed by CORD and AIT, in cooperation with 37 states and 4 provinces in Canada.

The course is team-taught by a physics teacher and electronics instructor. Materials used are paperbound texts produced by CORD and a set of videotapes. Lab equipment is used for the course and costs approximately $6,000 per lab station. Much of the equipment is standard; some is custom-made.

Counselors select students for the course according to ability and desire. Administrators make funds available and select teachers for the course.

CONTACT:

Physics Teacher
Tampa Bay Vo-Tech High School
6410 Orient Road
Tampa, FL 33610

Vocational Director
Southern Penobscot Vocational School
200 Hogan Road
Bangor, ME 04401

Joint Effort - 62

TECHNIQUE/PRACTICE: Special Needs Program

A program in which a vocational resource educator works as a liaison between schools, community, teachers and students where needed to facilitate success in main-streaming special needs students in vocational education.

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- X Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- X Agriculture
- X Business & Office
- X Health Occupations
- X Home Economics
- X Marketing/Distributive Educ.
- X Technical Education
- X Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- X Speech Impaired
- X Deaf/Hearing Impaired
- X Visually Impaired
- X Orthopedically Impaired
- X Learning Disabled
- X Mentally Retarded
- ___ Emotionally Disturbed
- X Potential Dropouts
- X Other: Behaviorally disordered

TARGET AUDIENCE: All special needs students mainstreamed in vocational programs, grades 9-12

DESCRIPTION: As a support person, the vocational resource educator (VRE) compiled teaching techniques and strategies for teachers to use with special needs students mainstreamed in vocational classes. Where needed, students receive additional instruction in the vocational area. This is accomplished by close cooperation between the VRE, the special education instructor, and the vocational instructor.

The VRE is also a liaison between the sending school, community, and area vocational-technical school, and assists in obtaining jobs for special needs students after training.

Support services are available to special needs students from a vocational guidance counselor and job placement specialist.

As a result of the vocational special needs program, special needs students have successfully completed regular vocational programs.

CONTACT: Vocational Resource Educator
Perryville Area Vocational-Technical School
College at Edwards Streets
Perrysville, MO 63775

Joint Effort - 63

TECHNIQUE/PRACTICE: Basic Skills Integration

A three-year state program to integrate math and science into industrial arts/technology education

BASIC SKILLS EMPHASIZED

- X Mathematics
- ___ Communication
- X Science
- ___ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- ___ Business & Office
- ___ Health Occupations
- ___ Home Economics
- ___ Marketing/Distributive Educ.
- X Technical Education
- X Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Industrial arts/technology education teachers, math teachers, and science teachers

DESCRIPTION: The three phase program to integrate math and science into industrial arts/technology education began with a 2-week workshop involving 10 teams of teachers from 10 schools in the state. Each team consisted of one teacher from each of the areas of industrial arts, science and math. All team members from each school were required to attend. The objectives of the workshop were (1) to demonstrate the potential for teaching math and science through industrial arts content and activities; (2) to develop practical instructional material useful to teachers in all three areas; and (3) to promote interaction of the teachers in planning and designing instructional strategies in the respective schools. The workshop was sponsored by the Maryland Department of Industrial, Technological and Occupational Education at the University of Maryland.

Fifty units of instruction illustrating integration of math and science into industrial arts/technology education were produced at the workshop and distributed to participants and supervisors. Teachers developed new insights into the relevance of integrating math and science and methods of doing so.

In the second year or phase of the project, some school systems followed up with one-day workshops for all industrial arts/technology education teachers. The original workshop participants played a leading role in implementing these workshops.

Continued

	Some schools not involved previously sent teams to the University of Maryland for half-day training sessions. This broadened the number of schools involved in the integration effort. One school system developed a videotape showing what that system was doing toward integration. The videotape was made available to other school systems. The third phase included a day-long statewide conference for local education agency supervisors of math, science, and industrial arts. This conference was considered critical to acceptance of the integration effort. A component of the third year will be identification of math and science content in industrial arts/technology education.

CONTACT: Chairman
Department of Industrial, Technological and Occupational Education
University of Maryland
College Park, MD 20741

Joint Effort - 64

TECHNIQUE/PRACTICE: Curriculum Alignment Program

A joint effort of math, science, and vocational teachers to identify math and science taught in the vocational programs and display the information in chart form

BASIC SKILLS EMPHASIZED

- X Mathematics
- ___ Communication
- X Science
- ___ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- ___ Business & Office
- ___ Health Occupations
- ___ Home Economics
- ___ Marketing/Distributive Educ.
- ___ Technical Education
- X Trade & Industrial
- X Other: Industrial arts education

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Vocational students in grades 10-12

DESCRIPTION: Math, science and vocational teachers analyzed their areas to find common ground among the three. They then created curriculum alignment charts—one for each selected course in the vocational education curriculum. The chart shows each vocational education competency, its related math and science skill concepts, and relevant vocational, math and science performance indicators. The chart also contains suggestions for instructing students in the skills.

This project is designed to enhance mutual understandings, interest, and coordination of the program across curriculum areas. The project also puts competencies in a form highly usable by classroom teachers. Information from the competency charts has been keyed to disk for micro-computer printouts and dissemination.

CONTACT: Vocational Education Director
Haywood County Schools
1615 N. Main Street
Waynesville, NC 28786

Joint Effort - 65

TECHNIQUE/PRACTICE: Developing a Common Course of Study in Vocational Education
Courses offered for both vocational and basic skill credit

BASIC SKILLS EMPHASIZED

- X Mathematics
- ___ Communication
- X Science
- ___ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- ___ Business & Office
- ___ Health Occupations
- X Home Economics
- ___ Marketing/Distributive Educ.
- ___ Technical Education
- X Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- X Potential Dropouts (indirectly)
- ___ Other: _____

TARGET AUDIENCE: Vocational students in grades 9-10

DESCRIPTION: The purpose of this program is to develop common courses of study for selected vocational courses or groups of courses and have such courses validated for basic skill credit. Thus, students may learn a vocation and, at the same time, earn a basic skill credit required for graduation. The courses involved are Auto Mechanics 1 and 2, Metalworking 1 and 2, Drafting 1 and 2, Woodworking 1 and 2, and Nutrition and Food Science.

Vocational teachers developed the courses of study, with emphasis on the inclusion of basic skills when appropriate to the vocational objectives. Basic skills teachers worked together with vocational teachers to validate the courses of study for basic skills credit. Nutrition and Food Science is taught in the home economics department for science credit. Scientific equipment and instructional materials were added.

CONTACT: Vocational Curriculum Specialist
Washoe County School District
Industrial Education Building
395 Booth Street
Reno, NV 89509

Joint Effort - 66

TECHNIQUE/PRACTICE: Identifying Math and Science Competencies in Vocational Education

An effort in which math and science competencies were identified in three vocational areas and subcompetencies were developed to reflect related basic skills

BASIC SKILLS EMPHASIZED

- X Mathematics
- ___ Communication
- X Science
- ___ Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- ___ Agriculture
- X Business & Office
- ___ Health Occupations
- X Home Economics
- X Marketing/Distributive Educ.
- ___ Technical Education
- ___ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: Secondary vocational students in home economics, business and office, and marketing and distributive education

DESCRIPTION: Consumer and homemaking education business and office education, and marketing and distributive education were identified as vocational areas using math and science skills. Relevant competencies were identified. Math, science, and vocational teachers developed subcompetencies for each competency identified as having implied math or science content. A matrix of the competencies identified was developed.

The matrix developed is designed to provide vocational teachers with a comprehensive list of science and math skills and subcompetencies to use as a starting place in planning. A manual was developed with a step-by-step guide for implementing a workshop to train math, science, and vocational teachers in use of the materials. These teachers then work together to coordinate resources, content, and coverage of the material.

CONTACT: Chairman, Home Economics in Education and Business
East Carolina University
Greenville, NC 27834

Joint Effort - 67

TECHNIQUE/PRACTICE: Developing Basic Skills

A program in which academic and vocational teachers work in clusters to make learning more meaningful for vocational students

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- X Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- X Agriculture
- ___ Business & Office
- X Health Occupations
- X Home Economics
- X Marketing/Distributive Educ.
- X Technical Education
- X Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- X Speech Impaired
- X Deaf/Hearing Impaired
- X Visually Impaired
- X Orthopedically Impaired
- X Learning Disabled
- X Mentally Retarded
- X Emotionally Disturbed
- X Potential Dropouts
- ___ Other: _____

TARGET AUDIENCE: All vocational students, grades 10-12

DESCRIPTION: The purpose of this program is to make learning more meaningful by relating all academic programs to the vocational program. The vocational programs are arranged in four clusters. Academic teachers are attached to the clusters and provide academic work for the students in the clusters. Academic curriculum is being developed to reflect this arrangement. Teachers meet as a cluster to discuss student needs. Teaching techniques and teaching style vary from cluster to cluster. Students seem responsive to this type of program. To make the program successful, everyone in the school needs to be involved.

CONTACT: Vocational Administrative Director
Dauphin County Technical School
6001 Locust Lane
Harrisburg, PA 17109

Joint Effort - 68

TECHNIQUE/PRACTICE: Emphasizing Basic Skills

A workshop in which teachers learn to incorporate basic skills in vocational classes and to team teach classes to emphasize basic skills

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- X Science
- X Problem Solving
- ___ Other: _____

VOCATIONAL SERVICE AREA

- X Agriculture
- X Business & Office
- X Health Occupations
- X Home Economics
- ___ Marketing/Distributive Educ.
- X Technical Education
- X Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- X Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- X Other: Behaviorally disordered

TARGET AUDIENCE: Vocational students, grades 11-12

DESCRIPTION: A workshop was held for teachers in which county supervisors in four basic skills areas—math, English, science, and graphics—presented a variety of practical, proven techniques. These techniques are incorporated into a delivery system of basic skills related to their skill area. Lesson plans reflect the incorporation of basic skills in the form of enabling objectives and concepts.

Vocational teachers teach the applied portion of the material; a math or science instructor teaches the "pure" form of the material related to that teacher's area. Supervisors are available to assist in the delivery system.

The program has the approval of the county central office. Credit was given teachers for participation in the workshop. Administrators and teachers expect students will be better prepared to learn basic skills as a result.

CONTACT: Principal
Carver Career Center
4799 Midland Drive
Charleston, WV 25311

Joint Effort - 69

TECHNIQUE/PRACTICE: Integrating the Academics

A comprehensive curriculum model that uses joint effort to apply academic concepts and skills to vocational areas

BASIC SKILLS EMPHASIZED

- X Mathematics
- X Communication
- ___ Science
- X Problem Solving
- X Other: Employability skills; Technical writing

VOCATIONAL SERVICE AREA

- X Agriculture
- X Business & Office
- X Health Occupations
- X Home Economics
- X Marketing/Distributive Educ.
- X Technical Education
- X Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- ___ Potential Dropouts
- X Other: All of the above that can be mainstreamed

TARGET AUDIENCE: Vocational students, grades 11-12

DESCRIPTION: This comprehensive model was developed to strengthen the math, science, communications, and organizational skills of vocational students. The model uses qualified academic teachers to help students develop the defined academic competencies that are a primary component of the vocational instruction. Learning experiences are totally integrated with the requirements of the vocational field. Curriculum is developed by the academic and vocational staff, meeting weekly to share materials and plan strategies to correlate content. Team teaching, peer tutoring, computer-aided programs, and group demonstrations are all strategies being used. Learning activity packets are developed by instructors to pace student learning. A computer-aided program for math, science, and writing is being developed. Teachers developed materials for a technical writing program.

Student scores in math, science and writing are on the upswing. Students have a more positive attitude toward basic skills because the staff has worked to show a relationship between vocational and academic content.

CONTACT: Associate Superintendent
Great Oaks Joint Vocational School District
3254 E. Kemper
Cincinnati, OH 45241

Joint Effort - 70

TECHNIQUE/PRACTICE: Missouri LINC

A state resource to help teachers improve career and vocational programs for special needs students

BASIC SKILLS EMPHASIZED

___ Mathematics
___ Communication
___ Science
___ Problem Solving
_X_ Other: Vocational

VOCATIONAL SERVICE AREA

___ Agriculture
___ Business & Office
___ Health Occupations
___ Home Economics
___ Marketing/Distributive Educ.
___ Technical Education
___ Trade & Industrial
_X_ Other: Vocational and special education

SPECIAL POPULATIONS

___ Speech Impaired
___ Deaf/Hearing Impaired
___ Visually Impaired
___ Orthopedically Impaired
___ Learning Disabled
___ Mentally Retarded
___ Emotionally Disturbed
___ Potential Dropouts
_X_ Other: Handicapped and disadvantaged

TARGET AUDIENCE: Teachers of special needs students

DESCRIPTION: Missouri LINC is a state resource funded by the Missouri Dept. of Elementary and Secondary Education, Divisions of Special Education and Vocational and Adult Education. The mission of the program is to provide information, technical assistance, research, and professional development activities throughout the state related to improving career and vocational programming for special needs students. The program provides teachers with improved instructional strategies, keeps educators better informed, increases performance, and improves services to special needs students. A newsletter is published five times a year. Resource manuals, monographs and an assortment of texts, journals and other professional documents are used.

CONTACT: Director
College of Education—Missouri LINC
609 Maryland
University of Missouri
Columbis, MO 65211

Joint Effort - 71

TECHNIQUE/PRACTICE: PRO-TECH

A program to encourage creativity and problem-solving in vocational classes

BASIC SKILLS EMPHASIZED

- ___ Mathematics
- ___ Communication
- ___ Science
- _X_ Problem Solving
- _X_ Other: Creativity

VOCATIONAL SERVICE AREA

- ___ Agriculture
- ___ Business & Office
- ___ Health Occupations
- ___ Home Economics
- ___ Marketing/Distributive Educ.
- _X_ Technical Education
- _X_ Trade & Industrial
- ___ Other: _____

SPECIAL POPULATIONS

- ___ Speech Impaired
- ___ Deaf/Hearing Impaired
- ___ Visually Impaired
- ___ Orthopedically Impaired
- ___ Learning Disabled
- ___ Mentally Retarded
- ___ Emotionally Disturbed
- _X_ Potential Dropouts
- _X_ Other: Gifted and talented

TARGET AUDIENCE: Vocational students, grades 9-12

DESCRIPTION: The purpose of this program is to work with academic and trade instructors to develop strategies for teaching creativity and problem-solving in the regular classrooms and trade shops. Instructors in the trades and instructors who teach PRO-TECH Program Challenge Classes (high ability academic students) receive training in creativity and creative problem-solving from the PRO-TECH facilitator and outside consultants. Those instructors incorporate and teach those techniques within their regular curriculum.

In addition to regular and trade production, students are encouraged to demonstrate their skills in statewide competition such as VICA, Connecticut Invention Convention, Olympics of the Mind, and Future Problem Solving.

Team teaching between vocational instructors and PRO-TECH facilitators is encouraged. Instructors are expected to streamline the curriculum to provide time for creative endeavors. Every student's preferred learning style has been assessed and recorded. Teaching styles are adjusted to accommodate the range of learning styles. Basic skills training is more meaningful when incorporated in the curriculum. Research suggests that creativity training may enhance learning in other areas.

Instructors, department heads, and administrators must be willing to consider alternatives to the traditional model of instruction. Some flexibility is needed in students' and teachers' schedules.

CONTACT: Consultant-Gifted and Talented Education
Voc-Tech School System
Connecticut Department of Education
Box 2219
Hartford, CT 06145

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